

APPENDIX A

Gridded Inventory Coordination Group Minutes

February 26, 2003

Attendees	Affiliation
Amir Fanai, Glen Long, Toch Mangat, Phil Martien	Bay Area AQMD
Bruce Katayama, Aleta Kinnard, Hao Quinn, Greg Tholen	Sacramento Metro AQMD
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Vernon Hughes, Ajith Kaduwela, Cheryl Taylor	ARB

1. Welcome

Cheryl welcomed everyone to the call. Introductions were made.

2. General Discussion

a) Purpose of the Coordination Group

This group was formed as an outgrowth of the February 19 modeling conference call, where several districts expressed a desire to review the gridded inventories to be used in modeling for the SIPs. The group agreed that the more people who review the inventories, the more likely they will spot problems quickly. More reviewers can also share the burden of reviewing such large amounts of information. The districts have specific knowledge about the inventories in their regions, so are more likely to discover problems.

b) Goals/Expectations of the Group

The goal of the group is to provide gridded inventories for review in an easily accessible and coordinated manner. There are several gridded inventories that will be available for review by the group, including episodes for July/August 2000, September 2000, and June 2000. The creation of gridded inventories for July 1999 and a 2002 episode are being considered. ARB, Alpine Geophysics, and Environ are creating pieces of the various gridded inventories. ARB will receive all the pieces and will be assembling them for each episode. The group agreed that inventories should be made available for review whenever they are available, regardless of priority for the SIPs. Cheryl will distribute minutes.

c) Timeframe for Reviewing Inventories

The group agreed that an email would be broadcast when a new inventory had been posted for review. A period of two weeks for review would begin once the notification had been sent.

d) Feedback from Reviewers – What Will be the Process to Incorporate/Investigate any Comments or Requested Changes?

It was suggested that there be a structured form for comments; this will be discussed at future meetings. Requests to change emissions should be made through the normal channels, such as the Emission Inventory Branch at ARB. The entire group is to be notified if there are changes to the emissions or if other problems are identified.

e) Frequency of Meetings

The group did not specifically determine the frequency of the meetings, but they agreed to meet again in three weeks.

3. Discuss Specifics of How to Review Gridded Inventories

Vernon described the basic steps to creating model-ready gridded inventories. Base year criteria emissions are fed from CEIDARS (California Emission Inventory Development and Reporting System) into CEFS (California Emission Forecasting System). CEFS creates base year and future year inventories by air basin, county, and source category (SIC/SCC for point sources or EIC for all other sources) for either a weekday or a weekend day for a specified month. Day-specific data are then merged in. Next, EMS-95 is used to distribute the emissions both spatially and temporally (down to grid cell by hour). Then the emissions are speciated and reformatted to create model-specific gridded inventories.

The group agreed that the following reports would be useful:

- 1) Tabular reports from CEIDARS/CEFS (summary of emissions of criteria pollutants by county/air basin and by 3-digit EIC – base year and forecasted years)
- 2) Tabular and graphical (tile plots) reports of the model-ready gridded inventories
- 3) Intermediate SAS files (gridded hourly criteria inventory with categories in tact)
- 4) Model-ready files
- 5) Speciation profiles
- 6) Spatial Surrogates
- 7) Temporal Profiles

Cyndi said that she already has summary reports that she would be willing to run on the gridded inventories as they become available for review. Gridded inventories for the

July/August 2000 episode are available now for review. Vernon emphasized that version control (e.g. version of EMFAC used in the gridded inventory) is very important and needs to be stated clearly for each gridded inventory.

4. Discuss How to Access Gridded Inventories

Cyndi volunteered Alpine Geophysics to be the repository of information by hosting an ftp site accessed through the Web. ARB may take over this duty in the next few weeks after ARB finalizes its global file directory syntax.

Cyndi and Vernon will discuss the details of exactly what will be posted. ARB will then distribute a one-page proposal to the group for comment. The proposal would detail what reports and version control information would be provided for review. Cyndi will set up a website and post data within a couple of weeks. The group will be notified when data are available and how to access the site. At the next call, the group will discuss the website and reports; changes will be incorporated as agreed.

5. Other Districts Who May Wish to be Involved?

Phil suggested that Bob Nunes from Monterey Bay Unified APCD might be interested in participating in this group. Vernon will call him.

Jim suggested that representatives from the COGs might also be interested in reviewing the on-road mobile source emissions. Jim has a list of the COG representatives that he has spoken with in preparing the roadway network for the CCOS domain. He will send the list to Vernon who will give them to Ed Yotter for review. Ed will be asked to join this group.

6. Other Issues

No other issues were discussed.

7. Plans for Next Meeting

The next conference call is scheduled for Wednesday, March 19.

March 19, 2003

Attendees	Affiliation
Amir Fanai, Toch Mangat, Phil Martien	Bay Area AQMD
Bob Nunes	Monterey Bay Unified APCD
Charles Anderson, Bruce Katayama, Greg Tholen, Brigitte Tollstrup	Sacramento Metro AQMD
Donald Hunsaker, David Nunes, Evan Shipp, Michelle Stanley	San Joaquin Valley Unified APCD
Vincent Liu	Kern COG
Harold Brazil	MTC
Cari Anderson	Earth Matters
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Vernon Hughes, Cheryl Taylor, Ed Yotter	ARB

1. Welcome and Feedback on February 26 Minutes

ARB welcomed everyone to the call. Introductions were made. There were no comments on the February 26 minutes.

2. Discuss How to Efficiently Transfer and Track Review of Gridded Inventories

Alpine Geophysics described how they propose to set up the ftp site (not a web page) to efficiently transfer and track the review of the gridded inventories. There will be three main parts: “read me” files, a data-tracking log, and the files/reports themselves. The “read me” files and data tracking log are described below; the files/reports are discussed in Item 3.

The “read me” files will contain several pieces of information. One part will discuss the naming convention used to describe each gridded file for review. ARB has developed a naming convention that describes the file. The name will state the domain (CCAQS), episode day, source type (point, area, on-road motor vehicle, or biogenics), source-specific information (e.g. version of EMFAC), when the file was created and the version, chemical mechanism (e.g. SAPRC), speciation version, and model format (e.g. ascii). Another “read me” file will describe the data-tracking log, how to use it, and what to do if you find problems in the gridded inventories. The BAAQMD suggested that a “read me” file include a discussion of what each file contains (e.g. data dictionary) as well as other information such as the units of the emissions. A “read me” file will also describe how Alpine Geophysics developed a model to add commercial VMT to the Integrated Transportation Network (ITN) (see Item 4 below). A “read me” file will describe the differences in VMT between the ITN and EMFAC 2002 (see Item 4 below)

Alpine Geophysics has developed a data-tracking log. The log shows the current inventory, date released, problems identified, who identified the problem and when, how the problem was fixed, and who fixed the problem and when. Per the group’s request, Alpine Geophysics will include a list of standard QA procedures that they have implemented in reviewing the inventories to avoid duplication of effort.

ARB will develop a one-page proposal that will detail what information will be posted on the ftp site, and distribute it to the group for comment. ARB reminded everyone that both time and resources are growing shorter, so the number of custom reports may be limited. The San Joaquin Valley district said that they might be able to provide assistance to other districts by providing plots and/or reports.

3. Discuss New Site for Accessing Gridded Inventories

The ftp site is not available yet for viewing, but should be ready next week. Below is a list of the reports that will be available on the ftp site. Information for the July/August 2000 episode will posted first. Information for other episodes will be posted when available. Episodes that are planned include September 2000, July 1999, and June 2000.

Alpine Geophysics is putting together a report that describes how the gridded on-road motor vehicle inventory was created. The report will describe how the Integrated Transportation Network (ITN) for the entire CCOS/CRPAQS domain was developed. It will also describe how the day-specific data, which were collected by Dr. Deb Niemeier of UC Davis, were incorporated. The report should be available in two weeks and will be distributed to the group a few days prior to the next call.

List of data/reports that will be available on the ftp site:

- 1) Tabular reports from CEFS, the inventory forecasting system (summary of emissions of criteria pollutants by county/air basin and by 3-digit EIC – base year and forecasted years)
- 2) Tabular and graphical (tile plots) reports of the model-ready gridded inventories by 3-digit EIC by county
- 3) Intermediate SAS files (gridded hourly criteria inventory by 3-digit EIC)
- 4) Model-ready files (will include 4 sets - CAMx and SAQM models each using CB-IV and SAPRC chemical mechanisms)
- 5) Speciation profiles
- 6) Spatial surrogates
- 7) Temporal profiles
- 8) Day-specific data for point sources
- 9) Integrated Transportation Network (ITN) (ARC format)
- 10) DTIM-ready files

4. Other Issues – On-Road Motor Vehicle Gridded Inventory

Alpine Geophysics briefly described how the on-road gridded inventory was developed. First they developed an Integrated Transportation Network (ITN) that combines demand model networks from agencies such as MTC, SACOG, four COGs in the San Joaquin Valley, and Caltrans' statewide network. The VMT provided by each of these agencies was adjusted in three ways. First, the VMT were adjusted to represent the year 2000. For instance, the statewide network was for year 1995 and was grown to reflect year 2000. Second, the VMT was adjusted to distinguish between weekday and weekend volumes. Third, Alpine Geophysics developed a model to add commercial VMT to the ITN.

Alpine Geophysics compared the VMT for 2000 from the ITN with EMFAC 2002. There were some discrepancies, which Alpine Geophysics understands and will document in a "read me" file.

5. Plans for Next Meeting

The next conference call will focus on the on-road motor vehicle gridded inventory. The call is scheduled for Monday, April 7.

April 7, 2003

Attendees	Affiliation
Toch Mangat, Phil Martien	Bay Area AQMD
Charles Anderson, Matt Jones, Bruce Katayama, Greg Tholen, Brigitte Tollstrup	Sacramento Metro AQMD
Donald Hunsaker, David Nunes, Stephen Shaw, Evan Shipp, Michelle Stanley	San Joaquin Valley Unified APCD
Harold Brazil	MTC
Cari Anderson	Earth Matters
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Vernon Hughes, Anne Lin, Cheryl Taylor, Ed Yotter	ARB

1. Welcome and Feedback on March 19 Minutes

ARB welcomed everyone to the call. Introductions were made. There were no comments on the March 19 minutes. The BAAQMD asked if the one-page summary that details the information that will be posted on the ftp site had been distributed (as referenced in the minutes). ARB responded that the summary had not been written yet.

2. Status of Ftp Site for Accessing Gridded Inventories

Alpine Geophysics described the ftp site (not a web page) that they set up to transfer and track the review of the gridded inventories. To access the information, ftp to agftp.com (host name). The user ID is agftp and the password is pass4ftp.

To review emissions files, change to directory "CCAQS_Emissions". There are sub-directories for three episodes: June 2000, July 2000, and September 2000. Data are available under July 2000 for the July/August 2000 episode. Under the July 2000 sub-directory are five sub-directories: a) CEFS_files, b) Gridded_SAS_files, c) Modeling_Files, d) Plots and e) Summaries.

- a) *CEFS_files*: Contains the actual files provided by the ARB's Emission Inventory Branch as they come out of CEFS.
- b) *Gridded_SAS_files*: Contains the gridded SAS datasets in SAS trans format. This format allows SAS files to be transferred to versions of SAS running on different platforms (i.e. PC, Linux, Sun). Alpine Geophysics will include an example of SAS code that can be used to extract the transport files to your local systems. SAS will be required to access and use these files. The files are broken into source types: area, point, biogenics, on-road, and fires. There is a file for each source type and episode day.
- c) *Modeling_Files*: These are the model-ready files for input into SAQM and CAMx. Each model is run using both SAPRC and CBIV chemistry. These files are further separated into source types (point, area, biogenics, on-road, and fires). These are ASCII (text) format files.
- d) *Plots*: These are gif plots (not animated) showing hourly and daily total emissions (kilograms per day) of NOx and ROG for point, area, and on-road sources for August 1, 2000.

- e) *Summaries*: There are two reports. One shows county totals for point, area, and on-road. The second report shows point and area source emissions by county by EIC with day-specific data merged in.

Several additions will be posted to the ftp site soon. ARB will develop a one-page summary that will detail what information will be posted on the ftp site. Alpine Geophysics will add a description of the file naming convention. Alpine will post to the ftp site a data-tracking log that shows the current inventory, date released, problems identified, who identified the problem and when, how the problem was fixed, and who fixed the problem and when. The September 2000 point and area source files are ready, so they will be posted to the ftp site. Emissions from soil NO will also be posted.

3. Gridded On-road Motor Vehicle Emissions

Alpine Geophysics distributed to the group a draft report (available on the ftp site) that describes how the gridded on-road motor vehicle inventory was created. The report describes how the Integrated Transportation Network (ITN) for the entire CCOS/CRPAQS domain was developed. The report describes the addition of a commercial travel model to the ITN. It also describes how the day-specific data were used to create hourly VMT distributions and make adjustments for weekdays and weekend days. Please provide any comments to Jim Wilkinson (Alpine Geophysics).

4. Other Issues

The group asked how much time is available to review the gridded inventories. ARB has already begun modeling with the emission inventories that have been developed, so any issues that are discovered will need to be addressed as soon as possible. Provide any comments or questions to Cheryl Taylor (cataylor@arb.ca.gov).

5. Plans for Next Meeting

The next conference call is scheduled for Wednesday, April 23.

April 23, 2003

Attendees	Affiliation
Toch Mangat, Phil Martien, Steve Soong	Bay Area AQMD
Bob Nunes	Monterey Bay Unified APCD
Charles Anderson, Matt Jones, Bruce Katayama, Aleta Kennard, Hao Quinn, Greg Tholen	Sacramento Metro AQMD
David Nunes, Stephen Shaw, Michelle Stanley	San Joaquin Valley Unified APCD
Harold Brazil	MTC
Cari Anderson	Earth Matters
Cyndi Loomis	Alpine Geophysics
Daniel Chau, Vernon Hughes, Doug Ito, Bruce Jackson, Anne Lin, Tess Sicat, Cheryl Taylor, Eugene Yang, Ed Yotter	ARB

1. Welcome and Feedback on April 7 Minutes

ARB welcomed everyone to the call. Introductions were made. There were no comments on the April 7 minutes.

2. Status of Ftp Site for Accessing Gridded Inventories

Alpine Geophysics described the status of the information on the ftp site. Alpine has placed several items on the ftp site since the last call. 1) Alpine has added the point and area source files for the September 2000 episode. 2) Alpine has placed an example of SAS code that can be used to extract the SAS transport files to your local system. This will enable you to review the gridded SAS files that are in SAS trans format. The file on the ftp site is called "example_import.sas". 3) Alpine has placed a program to convert ASCII to binary that will allow the modeling files to be imported into PAVE, as requested by Sac Metro AQMD. The program on the ftp site is called "binary_convert.tar.gz". [Note: To access the information, ftp to agftp.com (host name). The user ID is agftp and the password is pass4ftp. The emission information can be found under the directory "CCAQS_Emissions". A detailed description of the contents of the CCAQS_Emissions directory can be found in the April 7 minutes.]

Several additions will be posted to the ftp site soon. 1) Alpine will place an overview document that describes what information is posted on the ftp site. 2) Revised on-road motor vehicle and biogenic emissions for the July/August episode will be posted soon. These emissions were recalculated using different meteorological data. 3) Alpine will add a description of the file naming convention. 4) Alpine will post to the ftp site a data-tracking log that shows the current inventory, date released, problems identified, who identified the problem and when, how the problem was fixed, and who fixed the problem and when. 5) Emissions from soil NO will also be posted. 6) Spatial surrogate information (report and graphics) will be posted. 7) The results of a CCOS project to update specific district area source categories will be available. 8) Future year emissions will be posted when they become available.

BAAQMD stated that they would be revising emission and stack data for refineries. Sac Metro AQMD raised questions about inconsistencies in the summary reports. ARB also expressed concerns about discrepancies in county total emissions between the summary reports on the ftp site with reports run in-house by ARB. ARB will work with Alpine to correct and clarify the summary reports. Sac Metro AQMD also expressed concern that their day-specific emissions didn't appear to be incorporated correctly. ARB will work with the district and Alpine to ensure the inclusion of the day-specific data.

3. Comments on Alpine Geophysics' Report on the Integrated Transportation Network

The group provided comments on the draft report (available on the ftp site) that describes how the gridded on-road motor vehicle inventory was created using the Integrated Transportation Network (ITN). ARB noted that they are working with the

COGs to specifically define the hours in the am/pm peaks for their region. ARB will work with Alpine to incorporate any corrections needed to the motor vehicle emission calculations. SJVUAPCD expressed concern about Caltrans' statewide network being used for their four northern counties rather than local data. Earth Matters, who represents the valley COGs, will work with ARB and Alpine to look into acquiring local network data. SJVUAPCD also noted that the ITN represents reality fairly well in the urban areas, but can be off by more than a grid cell in more remote areas like the foothills. Also, Earth Matters sent questions about the commercial travel model that Alpine included; ARB and Alpine will discuss the questions on a separate call. Please provide any additional comments to Jim Wilkinson (Alpine Geophysics).

4. Other Issues

No other issues were discussed.

5. Plans for Next Meeting

The next conference call is scheduled for Wednesday, May 7.

May 7, 2003

Attendees	Affiliation
Toch Mangat, Phil Martien, Amir Fanai	Bay Area AQMD
Bob Nunes	Monterey Bay Unified APCD
Matt Jones, Greg Tholen	Sacramento Metro AQMD
Donald Hunsaker, David Nunes, Evan Shipp	San Joaquin Valley Unified APCD
Harold Brazil	MTC
Cari Anderson	Earth Matters
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Leonard Seitz	Caltrans
Paul Allen, Daniel Chau, Vernon Hughes, Doug Ito, Bruce Jackson, Anne Lin, Cheryl Taylor, Bruce Tuter, Ed Yotter	ARB

1. Welcome and Feedback on April 23 Minutes

ARB welcomed everyone to the call. Introductions were made. There were no comments on the April 23 minutes.

2. Status of Ftp Site for Accessing Gridded Inventories

Alpine Geophysics described the status of the information on the ftp site. Alpine has placed several items on the ftp site since the last call:

- a) Alpine has posted modeling files that reflect revised on-road motor vehicle and biogenic emissions using CALMET temperatures (higher temperatures) for the July/August 2000 episode. The on-road emissions increased about 10-20% and the biogenic emissions increased about 30% from the previous version. It was noted that the on-road emissions were adjusted so that the county totals match the emissions from EMFAC2002 v2.2. *These emissions were spatially allocated*

using the output from DTIM, which uses the ITN activity as input, to create hourly emission ratios for each grid cell in a county. The revised files contain "revmet" in the name.

- b) Alpine has posted new summaries of emissions by county and by category (EIC3 level) for point and area sources. The new summaries reflect the correction to the EIC mapping that was causing some point and area source emissions to be dropped. The summaries also reflect a clearer accounting of the processing that occurred from the CEFS output files to the SAS gridded files (e.g. some ag burn emissions are dropped because no burning occurred on the episode day). Close attention should be paid to the files names in order to retrieve the latest version; the revised summaries have V050503 (Version dated May 5, 2003) added to the file name.
- c) Alpine has posted point and area source model-ready files (SAPRC format) for January 2001.
- d) Alpine has placed the EMS-95 Technical Formulation Documentation on the ftp site under the directory "EMS-95 Technical Formulation Documentation". These are old WordPerfect files that should load into newer versions of WordPerfect and probably into Word. Much of this same information is available on-line at www.ladco.org/emis/guide/ems95.html.
- e) The Emission Inventory Branch at ARB has developed a website with information regarding SIP Baseline Emission Inventory Projections. The site contains report generators for annual average, seasonal average planning, and modeling inventories. There are sections on control rule reports, documentation, and memoranda. This site should be helpful in checking the summary reports from CEFS that are posted on the ftp site. The address is <http://www.arb.ca.gov/app/emsinv/ccos/index.php>
- f) Spatial data are now available on the ftp site. The reports and plots created by Sonoma Technology Inc. (STI) are available for review. A "read me" file describes the files. The directory is called "CCOSI_STI".
- g) Future year surrogate information is also available from STI. It is in the directory "NewSurrogates_STI".
- h) The results of the project to update specific district area source categories for small districts in the Mountain Counties, Sacramento Valley, and Mendocino can be found in the directory "CCOSII_STI". A "read me" file describes where to find the information.

The BAAQMD noticed as they reviewed the plots that the southern portion of the domain had a different timing for when motor vehicle emissions began than the rest of the domain. ARB is having on-going discussions with the COGs about the definition of "peak hour". There are multiple period definitions for different networks. ARB is

working with Alpine to ensure that the actual hours as defined by am, pm, and off-peak periods are reflected correctly on the Integrated Transportation Network (ITN). The BAAQMD has also created animations of the NO_x and TOG plots for on-road motor vehicles and volunteered to post them on the ftp site.

The group discussed the labeling information on the plots. The units are in kg/grid cell for each hour. The time shown is local time (PDT for July 2000). Alpine will check the labels to make sure that the units and a description of the plot are displayed.

3. Comments on Alpine Geophysics' Report on the Integrated Transportation Network

Alpine Geophysics received two sets of comments on the draft ITN report. Alpine will draft responses to the comments.

Additionally, the San Joaquin Valley Unified APCD and Earth Matters had expressed concern in previous meetings that the ITN uses the statewide model for the four northern counties in the San Joaquin Valley. The SJVUAPCD is continuing to study the ITN in the northern SJV to determine if the ITN is acceptable as a replacement for local data. ~~The SJVUAPCD and Earth Matters expressed acceptance of the ITN for use in the SIPs.~~ Earth Matters expressed acceptance of the ITN for use in the SIPs. The SJVUAPCD is still discussing in-house the acceptability of the ITN. ARB and SJVUAPCD will discuss the subject further during the next weekly modeling call. Earth Matters agreed to work with ARB to provide updated data for all eight counties in the SJV. There is not sufficient time to incorporate these data into the ITN for use in the upcoming SIPs. Perhaps they can be used for future work, such as transport analysis.

Monterey Bay Unified APCD expressed surprise that local transportation data were not used for the Monterey area since they believe that data were available. AMBAG did not respond to the original request for data from Alpine. Monterey Bay district will look into what data are currently available.

Caltrans noted that they would have a new statewide model available soon that will represent calendar year 2000.

4. Other Issues

Earth Matters had a question about the TOG emissions for area sources in the San Joaquin Valley. They compared the August 1, 2000 inventory with an average summer day inventory and noticed a large difference (about 1100 tpd). ARB will look into the question.

5. Plans for Next Meeting

The next conference call is scheduled for Wednesday, May 21.

May 21, 2003

Attendees	Affiliation
Toch Mangat, Phil Martien, Amir Fanai	Bay Area AQMD
Bob Nunes	Monterey Bay Unified APCD
Charles Anderson, Matt Jones, Bruce Katayama, Aleta Kennard, Greg Tholen	Sacramento Metro AQMD
David Nunes, Evan Shipp, Michelle Stanley	San Joaquin Valley Unified APCD
Harold Brazil	MTC
Cari Anderson	Earth Matters
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Leonard Seitz	Caltrans
Ravi Ramalingam, Cheryl Taylor, Ed Yotter	ARB

1. Welcome and Feedback on May 7 Minutes

ARB welcomed everyone to the call. Introductions were made. There were two comments on the May 7 draft minutes. The SJVUAPCD did not agree with the statement in Section 3 *“The SJVUAPCD and Earth Matters expressed acceptance of the ITN for use in the SIPs.”* The SJVUAPCD is still discussing in-house the acceptability of the ITN. ARB and SJVUAPCD will discuss the subject further in the next weekly modeling call.

Caltrans questioned the following statement on the ITN in Section 2, part 1): *“These emissions were spatially adjusted using VMT on the Integrated Transportation Network (ITN).”* This statement incorrectly reflected what was said at the meeting. The statement should read *“These emissions were spatially allocated using the output from DTIM, which uses the ITN activity as input, to create hourly emission ratios for each grid cell in a county.”* After discussing the spatial distribution of the emissions, Caltrans was satisfied with the method. ARB will correct the minutes to reflect these comments.

2. Data on Ftp Site

Alpine Geophysics described the information posted to the ftp site since the last call. [To access the site, ftp to agftp.com (host name). The user ID is agftp and the password is pass4ftp.] Since there have been several revisions to some of the files, Alpine has created a Version_Control_Log (found under CCAQS_Emissions/July 2000/Modeling_Files) that describes the reason for each revision and the revision number. This log will be very helpful in understanding what is in each file.

- a) Alpine posted revised point and area source files for the July/August 2000 episode that reflect corrections in the processing of the CEFS output files. There are revised summaries (emissions by county as well as emissions by county and EIC category). There are revised modeling files. All the summaries and modeling files for the revised point and area sources contain the date the version was revised, V050503.

- b) There have been changes to the list of species in both the CB-IV and SAPRC chemistries. These changes relate to whether certain species are treated explicitly or are lumped together with other species. The species are methanol (MEOH), ethanol (ETOH), MTBE, and methyl butanol (MBUT). The BAAQMD reminded all that changes to the speciation will cause the modeling files to change, but not the base CEFS files and plots.

Alpine noted that there are several outdated versions of files on the ftp site that could cause confusion to reviewers. They asked if the files could be deleted. ARB requested that the files be moved to a different directory to lessen confusion, but retained for now. Alpine will look into creating a subdirectory for outdated versions. Space on the ftp site may become a concern.

SMAQMD expressed concern that the day-specific emissions may not be processed correctly for begin hour codes of “-1”, which indicate that the emissions are in kg/day rather than kg/hour. This may cause the emissions to be underestimated. ARB will investigate.

BAAQMD noted that some of the day-specific data recently submitted for the Bay Area contained emissions for only certain hours of the day, not the entire day. Following a discussion with Alpine on the methodology for processing the data, BAAQMD was satisfied that the data are being processed correctly.

3. Comments on Alpine Geophysics’ Report on the Integrated Transportation Network

Alpine Geophysics has placed the raw data files that they used to create the ITN on their FTP site. Each network is contained in its own zip file. The zip files are located in the directory "ITN_2000/Raw Data Used To Develop ITN." The name of the zip files states their relation to the network. ARB noted that the SACOG file was missing; Alpine will post Sacramento to the ftp site.

Alpine also posted a zip file on the FTP site that contains all the documentation and supporting data sets for the gravity model used in the Integrated Transportation Network (ITN). The file is called “ucd_gravity.zip” and is located in the "ITN_2000/Commercial VMT Gravity Model" directory. The gravity model estimates commercial VMT based on trip counts for 2, 3, 4, and 5 axle vehicles. The model uses AADT data from Caltrans and apportions trip counts across the domain. Alpine noted that the commercial VMT using the gravity model was only applied to the portions of the ITN developed with the Caltrans statewide model; local transportation networks already include commercial VMT.

Alpine plans to provide a draft final version of the ITN report on May 23. Alpine will notify the group when the report is available.

Earth Matters asked when Alpine would be responding to their questions about the ITN. Alpine hopes to complete their response by the end of the week.

Earth Matters asked if ARB still wants the latest COG data since it may not be used in the ITN for SIP modeling. ARB would like the data since ARB is creating its own ITN for uses other than SIP modeling. The alternate ITN would be on a different grid system than CCOS, using a Teale Albers projection. Earth Matters said they would request the data from the TPAs.

The BAAQMD mentioned that the time profiles in the on-road inventory of the model-ready files show a noontime “dip” in emissions on the weekend. Alpine pulled up the data and said that the “dip” is caused by the day-specific data that were developed by Dr. Niemeier of UC Davis. The data show a 1-2 hour decrease in emissions around noon and then a return to previous levels. Alpine will post the UC Davis information to the ftp site. Alpine will also post information that was generated to QA the ITN that may be helpful to other reviewers.

4. Other Issues

No other issues were raised.

5. Plans for Next Meeting

The next conference call is scheduled for Wednesday, June 4.

June 4, 2003

Attendees	Affiliation
Phil Martien, Amir Fanai	Bay Area AQMD
Charles Anderson, Matt Jones, Bruce Katayama, Greg Tholen	Sacramento Metro AQMD
David Nunes, Stephen Shaw, Michelle Stanley, Jim Sweet	San Joaquin Valley Unified APCD
Harold Brazil	MTC
Leonard Seitz	Caltrans
Cari Anderson	Earth Matters
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Paul Allen, Vernon Hughes, Tess Sicat, Cheryl Taylor, Bruce Tuter, Ed Yotter	ARB

1. Welcome and Feedback on May 21 Minutes

ARB welcomed everyone to the call. Introductions were made. The May 21 and revised May 7 minutes were approved as written.

2. Data on Ftp Site

Very little new information was posted to Alpine Geophysics ftp site since the last call. [To access the site, ftp to agftp.com (host name). The user ID is agftp and the password is pass4ftp.] When reviewing the various files on the ftp site, check the Version Control Log to determine the version you wish to review. The

Version_Control_Log (found under CCAQS_Emissions/July 2000/Modeling_Files) describes the reason for each revision and the revision number.

Alpine will be posting revised area and point source modeling files. A small amount of emissions were being left out because some SIC/SCC combinations were missing a speciation profile assignment. Alpine and ARB should have the problem corrected soon.

In previous meetings, SMAQMD expressed concern that the day-specific emissions may not be processed correctly for begin hour codes of “-1”, which indicate that the emissions are in kg/day rather than kg/hour. This may cause the emissions to be underestimated. SMAQMD also expressed concern that emissions reported for multiple hours (rather than a single hour at a time) were being treated for only the first hour. Alpine and ARB investigated the concerns and discovered that SMAQMD was correct. Alpine modified the program to read multiple hours and reformatted the emissions reported with a “-1” to be hourly emissions. The day-specific emissions are now being processed correctly.

3. Comments on Integrated Transportation Network (ITN) Report

Alpine hopes to complete the draft final ITN report by June 13. The group will be notified when it is available for review.

Alpine provided a response on June 3 to comments submitted by Earth Matters on the ITN report. Earth Matters said that they had a couple of questions (editorial comments) about the response. Earth Matters plans to talk to the San Joaquin Valley APCD (SJVUAPCD) and provide a response to Alpine and ARB the week of June 9. Alpine plans to include the response to Earth Matters' comments in the ITN report.

The SJVUAPCD staff continued to express concern about the statewide network being used for the four northern counties of the SJV rather than local transportation networks in the ITN. SJVUAPCD staff has raised the concern to their management. [As a reminder, Stanislaus provided information that couldn't be incorporated and the other three counties did not respond at the time when Alpine gathered the local data for use in the ITN.]

Earth Matters will continue to work with Ed Yotter to provide local networks to the ARB.

At the last meeting, the BAAQMD mentioned that the time profiles in the on-road inventory of the model-ready files show a noontime “dip” in emissions on the weekend. Alpine mentioned that the “dip” is caused by the day-specific data that were developed by UC Davis. The BAAQMD reminded Alpine to post information that was used to QA the ITN, which may be helpful to other reviewers. Alpine will post the information. The BAAQMD also posted animations showing diurnal profiles of Bay Area traffic counts on the ftp site under CCAQS_Emissions\July 2000\Animations.

4. Other Issues

No other issues were raised.

5. Plans for Next Meeting

The next conference call is scheduled for Wednesday, June 25.

June 25, 2003

Attendees	Affiliation
Charles Anderson, Matt Jones, Bruce Katayama, Greg Tholen, Brigitte Tollstrup	Sacramento Metro AQMD
David Nunes, Stephen Shaw, Michelle Stanley, Jim Sweet	San Joaquin Valley Unified APCD
Bob Nunes	Monterey Bay Unified APCD
Wayne Luney	Caltrans Headquarters
Sally Rodeman	Caltrans, District 10
Cari Anderson	Earth Matters
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Chris Emery	Environ
Vernon Hughes, Tess Sicat, Cheryl Taylor, Ed Yotter	ARB

1. Welcome and Feedback on June 4 Minutes

ARB welcomed everyone to the call. There were two comments on the June 4 minutes. First, the minutes stated "Earth Matters will continue to work with Ed Yotter to provide local networks to the ARB." Earth Matters noted that ARB has stated that they are not ready to collect networks at this time. Second, Earth Matters expressed concern about the statement in Section 3: "[As a reminder, Stanislaus provided information that couldn't be incorporated and the other three counties did not respond at the time when Alpine gathered the local data for use in the ITN.] Earth Matters thought it might be better to say that local data were used for four of the eight counties in the SJV.

2. Data on Ftp Site

Alpine Geophysics reported that information for the September 2000 episode is available on the ftp site. [To access the site, ftp to agftp.com (host name). The user ID is agftp and the password is pass4ftp.] CEFS output files, summaries, plots, intermediate SAS files, and modeling files are available for review.

The temperature and relative humidity fields used to calculate the on-road motor vehicle and biogenic emissions have been posted to the ftp site.

Revised CEFS files (base year and future years) have been provided by ARB for the July/August 2000 episode. Alpine is processing these emissions to create modeling files for 2005, 2006, 2007 and 2010. Alpine will post these files to the ftp site this week and will generate several reports, including emission summaries by county and EIC as well as summaries of speciated emissions for each episode day.

ARB is developing the gridded on-road motor vehicle files for the future years needed for the July/August 2000 episode. ARB plans to provide these files next week to Alpine, who will speciate the emissions.

In previous meetings, SMAQMD expressed concern that some of the day-specific emissions were not being processed correctly. The problems have now been corrected. The day-specific data are being incorporated correctly as the inventories are being reprocessed with the latest emission data.

The June 4 minutes reported a small underreporting of emissions due to missing speciation profile assignments. This problem has now been corrected. Additionally, ARB has provided Alpine with speciation profiles for all the future years.

SJVUAPCD asked whether the modeling emission files reflect Pacific Daylight Time (PDT) or Pacific Standard Time (PST). ARB responded that emissions are usually handled in PDT because the temporal profiles of business activities follow local time (e.g. a business starts operating at 8 am, regardless of which time base it is). Air quality modelers need to be aware that they may need to convert emission data from PDT to PST.

3. Comments on Integrated Transportation Network (ITN) Report

Alpine Geophysics is working on the draft final ITN report. The group will be notified when it is available for review.

Previously, Alpine provided a response to comments submitted by Earth Matters on the ITN report. Earth Matters provided verbal comments to ARB. ARB will work with Alpine to incorporate the comments. Alpine plans to include the response to Earth Matters' comments in the ITN report.

SJVUAPCD continued to express concern about the statewide network being used for the four northern counties of the SJV rather than local transportation networks in the ITN. SJVUAPCD would like to see all the local SJV networks included in the ITN in time for modeling work to develop future year control strategies for the 1-hour ozone SIP. SJVUAPCD is considering options to provide an updated ITN for all or part of the SJV, perhaps by the middle of July. SJVUAPCD will discuss a course of action for improving the ITN with ARB when a decision has been made, hopefully by the end of the week. The entire group agreed that it is important to keep moving forward to update the ITN.

ARB noted that there is insufficient time to update the ITN and recreate the motor vehicle inventories in time for base year model performance, as it will be completed shortly. ARB reminded the group that the ITN is only used as a sophisticated spatial surrogate; emission estimates for each county come from EMFAC. ARB suggested that the difference between the local networks and the statewide network could be assessed. This could be done in GIS by overlaying the 4 kilometer modeling grid over a local network and summing the VMT by grid cell. The result could be compared to the

sum of the VMT by grid cell from overlaying the modeling grid over the statewide network. Comparing the VMT by grid cell would quantify the difference between the local and statewide networks to see if the spatial distribution would be changed significantly.

Alpine Geophysics will be providing training on how the ITN was developed to ARB and other interested parties in Sacramento on July 1, 2, and 3. SJVUAPCD and Earth Matters requested information on the training.

There was some discussion about how each period (for example, am and pm peaks) was distributed on the ITN. Alpine agreed to post a table on their ftp site that lists each county and the hours that each period represents. This table was developed based on data that were provided to Alpine by the local transportation agencies.

As requested at the June 4 meeting, Alpine posted on their ftp site a comparison of weekday and weekend VMT for each county between the UC Davis data, the ITN data, and the DTIM data. The BAAQMD had previously noted that the time profiles in the on-road inventory showed a noontime “dip” in emissions on the weekend, which reflected the day-specific data that were developed by UC Davis.

4. Other Issues

No other issues were raised.

5. Plans for Next Meeting

The next conference call is scheduled for Wednesday, July 9.

July 30, 2003

Attendees	Affiliation
Phil Martien, Toch Mangat	Bay Area AQMD
Charles Anderson, Bruce Katayama, Greg Tholen	Sacramento Metro AQMD
David Nunes, Stephen Shaw, Michelle Stanley, Jim Sweet	San Joaquin Valley Unified APCD
Leonard Seitz	Caltrans Headquarters
Cari Anderson	Earth Matters
Cyndi Loomis	Alpine Geophysics
Vernon Hughes, Tess Sicat, Cheryl Taylor, Bruce Tuter	ARB

1. Welcome and Highlights of July 9 Meeting

ARB welcomed everyone to the call. ARB summarized the items discussed at the July 9 meeting. The following paragraph will serve as the minutes of the July 9 meeting.

July 9 Meeting Highlights

Participants represented the Bay Area, Sacramento and San Joaquin districts, Alpine Geophysics, and ARB. Alpine stated that they are producing future year modeling

inventories for the CCOS base case modeling for the July/August 2000 and September 2000 episodes. Alpine staff are also producing base year and future year modeling inventories for the July 1999 episode for the Bay Area AQMD and the August 2002 episode for the Sac Metro AQMD. Alpine is progressing on the final ITN report. The Bay Area mentioned that they had reviewed the data regarding the period definition spreadsheet that Alpine had posted on their ftp site (see the June 15 minutes).

2. Update on Status of Gridded Inventory

Alpine Geophysics reported on the status of the gridded inventories. ARB provided revised point and area source CEFS files for all episodes to Alpine on July 10. Alpine has reprocessed the CEFS files to create revised modeling files for point and area sources. The files are for the base year and future years for the July/August 2000, September 2000, and August 2002 episodes. The file names will contain "V071003_R001". The revised future year files were inadvertently placed under the CCAQS_Emissions/July_2000/Modeling_Files directory, rather than the CCAQS_Emissions/July_Aug_FY/Modeling_Files directory. Alpine will generate summary reports when time is available.

Regarding the status of on-road motor vehicle emissions, the modeling files for 2005 and 2006 for the July/August episode will be ready on August 4. ARB will be providing files for 2010 to Alpine for processing in the next two to three weeks. ARB will also be providing files for all future years for the September 2000 episode to Alpine for processing in the next two to three weeks. Modeling files for the base year September 2000 episode are posted on the ftp site.

The point, area, and biogenic files for the July 1999 episode (base year) will be completed and posted the week of August 4. The motor vehicle files will be ready the following week.

The version control log has been updated to reflect the available files (found under CCAQS_Emissions/July_2000/Modeling_Files). The version control log also describes the various versions of the CBIV and SAPRC chemical mechanisms. Please check the version control log for a description of each modeling file.

3. Update on Wildfire Emissions

ARB reported that at the last CCOS Technical Committee (TC) meeting, Gail Tonnesen of UCR mentioned that the day-specific wildfire emissions (in particular, the Manter fire in southeast Tulare County) had a large effect on model performance. The TC asked how the emissions were being treated in the model and if anyone had information on alternative methods that could be used, particularly in distributing the emissions vertically. UC Berkeley's Center for the Assessment and Monitoring of Forest and Environmental Resources (CAMFER) laboratory calculated the emissions in consultation with ARB's Emission Inventory Branch. [More information on CAMFER can be found at: <http://camfer.cnr.berkeley.edu/fire/>]. Vertical stratification of emissions was done using a method developed for the Fire Emissions Joint Forum (FEJF) of the

Western Regional Air Partnership (WRAP). ARB will distribute these methodologies to the group and post them on Alpine's ftp site. The group was asked to provide any additional information they may have.

4. Other Issues

ARB will contact Alpine Geophysics to estimate a date for the availability of the final ITN report; ARB will notify the group.

Caltrans staff asked about the purpose of the ITN training that Alpine gave in early July. ARB explained that the contract with Alpine specified that Alpine would provide hands-on training to ARB. The purpose was to allow ARB to understand firsthand the method used to develop the ITN and to do a technology capture for future use by ARB.

Caltrans staff asked about any efforts to coordinate/organize future updates to a new ITN, such as incorporating a revised state travel model or more local COG data. No formal coordination has been established; however staff at ARB and Caltrans seemed willing to keep the lines of communication open.

Bay Area staff mentioned that they had reviewed the hourly profiles developed by UC Davis and noticed that cars and trucks were lumped together. ARB reported that UCD did not have sufficient data to warrant the development of distinct hourly profiles that were statistically significant.

San Joaquin Valley staff asked if day-specific train data were included in the CCOS modeling. SJV staff recalled that train traffic was closed west of the mountains between the ocean and valleys during the July/August 2000 episode that may have increased the number of trains operating in the valley. ARB and SJV will investigate sources of information.

San Joaquin Valley staff requested that ARB provide the day-specific data that were used in CCOS modeling, for documentation purposes. ARB will send the data.

5. Plans for Next Meeting

The next conference call is scheduled for Wednesday, August 13.

August 13, 2003

Attendees	Affiliation
Phil Martien	Bay Area AQMD
Charles Anderson, Matt Jones, Bruce Katayama, Greg Tholen	Sacramento Metro AQMD
David Nunes, Stephen Shaw, Michelle Stanley, James Sweet	San Joaquin Valley Unified APCD
Harold Brazil	MTC
Leonard Seitz	Caltrans Headquarters
Cari Anderson	Earth Matters
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Chris Emery	Environ
Vernon Hughes, Tess Sicat, Cheryl Taylor, Ed Yotter	ARB

1. Welcome and Feedback on July 30 Meeting

ARB welcomed everyone to the call. ARB summarized the items discussed at the July 9 meeting. The July 30 minutes were approved as written, with one clarification. The version control log (described in Section 2) applies specifically to the July/August 2000 episode, although the naming convention of the files is consistent between episodes.

2. Update on Status of Gridded Inventory

Alpine Geophysics reported on the status of the gridded inventories:

July/August 2000 episode – Point and area source modeling files are completed for the base year and future years (2005, 2006, and 2010). Biogenics files are completed. On-road motor vehicle files are completed except 2010, which should be ready next week.

September 2000 episode – Point and area source modeling files are completed for the base year and future years (2005, 2006, and 2010). Biogenics files are completed. On-road motor vehicle files are available for the base year. Alpine said that the future year files for on-road motor vehicles are completed; they will double-check since they are not posted on the ftp site.

July 1999 episode – Point, area, and biogenic modeling files are completed for the base year. On-road motor vehicle files for the base year are currently being processed.

August 2002 episode – Point and area source modeling files are completed for the base year and future years (2005, 2007, 2008, 2010, 2012, and 2018). Biogenics files are completed. On-road motor vehicle files for the base year will be completed in the next week, and subsequently followed by each future year every 2 or 3 days.

3. Discussion of Wildfire Emissions

As mentioned on the July 30 call, ARB reported that Gail Tonnesen of UCR mentioned at the last CCOS Technical Committee (TC) meeting that the day-specific wildfire

emissions (in particular, the Manter fire in southeast Tulare County) had a large effect on model performance. In particular, Gail expressed concern that the emissions from the Manter fire were not distributed nearly high enough (i.e. there were not enough emissions aloft). The TC asked how the emissions were being treated in the model and if anyone had information on alternative methods that could be used, particularly in distributing the emissions vertically. UC Berkeley's CAMFER laboratory calculated the emissions in consultation with ARB's Emission Inventory Branch. Vertical stratification of emissions was done using a method developed for the Fire Emissions Joint Forum of the WRAP. Alpine Geophysics provided a document that described the development of stack parameters and vertical distributions for modeling large wildfires in the CCOS domain. ARB distributed these methodologies to the group and posted them on Alpine's ftp site.

The group discussed the methodology for distributing emissions vertically, based on the information mentioned above. The vertical distribution of emissions is determined by the size of the fire. Members of the group expressed concern that the method that Alpine used limited the size of the fire to the number of acres in a 4 kilometer grid cell, and therefore limited the vertical distribution. Alpine agreed to revisit the methodology using the entire size of the fire for the day.

The group also discussed wildfire emissions in future year inventories, which are not normally included. ARB will put together some initial thoughts on a protocol to handle wildfire emissions in future year modeling.

4. Biogenic Emissions

Alpine Geophysics received biogenic emissions from ARB for the January 2000 episode. Alpine requested the precise date, start times, and time coordinates for that episode. ARB will provide that information.

Bay Area staff asked about the VOC emissions on August 1 of the July/August 2000 episode since they appeared different than the other days of the episode. They stated that the emissions are fairly high at night and there was a dip in the emissions about 1 p.m. across the entire domain. Bay Area staff agreed to post animations of the biogenic emissions for August 1. Alpine mentioned that the temperature fields used to calculate the emissions are posted on the ftp site. Staff from the Bay Area, Alpine Geophysics, and ARB agreed to look at the temperature fields and the biogenic emissions. The group was reminded that isoprene and methylbutenol (MBO) emissions are sensitive to light and temperature, whereas monoterpene emissions are only sensitive to temperature.

ARB mentioned that SJV staff has expressed concern about the latest biogenic emissions since they are very different than the biogenic estimates made during SARMAP. ARB will discuss the concern further with SJV staff.

5. Other Issues

After receiving the day-specific data requested from ARB, San Joaquin Valley staff commented that they had not provided day-specific data for CRPAQS. SJV staff will investigate what information they can provide.

Bay Area staff requested conversion programs between latitude/longitude, UTM coordinates, and Lambert Conformal coordinates. Alpine Geophysics and Environ agreed to work with the Bay Area to provide conversion programs.

6. Plans for Next Meeting

The next conference call is scheduled for Wednesday, September 3.

September 3, 2003

Attendees	Affiliation
Phil Martien, Toch Mangat, Amir Fanai	Bay Area AQMD
Charles Anderson, Matt Jones, Bruce Katayama, Greg Tholen	Sacramento Metro AQMD
David Nunes, Stephen Shaw	San Joaquin Valley Unified APCD
Leonard Seitz	Caltrans Headquarters
Cari Anderson	Earth Matters
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Vernon Hughes, Tess Sicat, Cheryl Taylor, Bruce Tuter, Ed Yotter	ARB

1. Welcome and Feedback on August 13 Meeting

ARB welcomed everyone to the call. The August 13 minutes were approved as written.

2. Update on Status of Gridded Inventory

ARB shared with the group a tracking sheet that shows the status of CCOS and CRPAQS modeling inventories. The group suggested changes and updates. ARB will send out this sheet along with the agenda for future conference calls.

Alpine Geophysics reported on the status of the gridded inventories:

July 1999 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year. Biogenics modeling files for the base year are also used as is for all future years (this applies to all episodes). Point and area modeling files for future years should be available next week. On-road motor vehicle files are available for 2005 and 2007. The group discussed which future years were needed for modeling; there was agreement on 2005, 2006, 2007 and 2010.

July/August 2000 episode – Point and area source modeling files are completed for the base year and future years (2005, 2006, and 2010). Biogenics files are completed. On-road motor vehicle files are available for all years.

September 2000 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year and future years (2005, 2006, and 2010).

August 2002 episode – Point and area source modeling files are completed for the base year and future years (2005, 2007, 2008, 2010, 2012, and 2018). Biogenics files are completed. On-road motor vehicle files for 2002, 2005, 2007, and 2008 are completed; the remaining future years are planned for completion next week.

3. Discussion on Wildfire Emissions

After discussion at the previous meeting, Alpine Geophysics revised the methodology for calculating the vertical distribution of fire emissions based on the entire size of the fire for the day rather than limiting the size of the fire to the number of acres in a 4 kilometer grid cell. The revised files are available on Alpine's ftp site.

Various members of the group have gathered information on wildfires. Staff from the San Joaquin Valley and Bay Area agreed to send ARB information, who will distribute it to the group. Alpine recently presented information on wildfires that occurred during the July 1999 and July/August 2000 episodes; ARB will also distribute this to the group.

The group also discussed wildfire emissions in future year inventories. ARB will present information gathered about wildfire emissions at a future conference call of either this group or an all-district modeling call. ARB will also put together some initial thoughts on a protocol to handle wildfire emissions in future year modeling.

4. Biogenic Emissions

Bay Area staff asked about the VOC emissions on August 1 of the July/August 2000 episode since they appeared different than the other days of the episode. In particular, the emissions are fairly high at night and there was a dip in the emissions about 1 p.m. across the entire domain. Alpine Geophysics and ARB agreed to look at the biogenic emissions and the temperature fields used to develop the emissions.

ARB has two documents related to biogenic emissions that they will distribute to the group. The first is a one-page overview of biogenic VOC emissions using the BEIGIS model. The second is a detailed description of the development of a biogenic hydrocarbon emission inventory for CCOS.

Alpine estimated biogenic NO emissions. These emissions were added to the emissions estimated by ARB using BEIGIS for the July 1999, August 2002, and July/August 2000 episodes. Biogenic NO has not been added to the September 2000

episode. ARB will add a column for biogenic NO to the tracking sheet for SIP modeling inventories.

Alpine used a soil NO algorithm found in BEIS-3 to estimate biogenic NO for modeling purposes. This estimate is about double a previous estimate from UC Berkeley, which is within the uncertainty of the estimation technique. ARB is looking into potential data sources or methods that could be used to validate the emission estimates, such as using California-specific data.

5. Other Issues

Alpine Geophysics mentioned that they hoped to resume work on the final Integrated Transportation Network (ITN) report soon; a final product is possible in the next two weeks.

Earth Matters asked if updates to VMT on local transportation networks would be used since the final modeling inventories will soon be completed. ARB replied that updates to the VMT could result in changes to EMFAC. For the development of on-road motor vehicle modeling inventories, the ITN is used as a surrogate to spatially distribute EMFAC emissions. Revised emission estimates from EMFAC could be used in developing attainment targets over the next few months. Earth Matters will be sending a letter to ARB providing updates to VMT for the SJV COGs.

Staff from the Bay Area informed the group that Dr. Rob Harley (UCB) recently completed a draft report that applies a fuel-based emissions inventory method to estimate CO, NO_x, and NMOC on-road motor vehicle emissions in the Sacramento Valley, San Joaquin Valley, and the Bay Area. In the report, the fuel-based method is compared to EMFAC totals for the same areas. ARB will distribute the report to the group.

It was noted that the emissions summaries produced by Alpine Geophysics have not been updated to reflect revisions to the modeling inventories, especially for the July/August 2000 episode. Alpine will rerun emission summaries, as time becomes available.

6. Plans for Next Meeting

The next conference call is scheduled for Wednesday, September 17.

September 17, 2003

Attendees	Affiliation
Phil Martien, Toch Mangat, Amir Fanai	Bay Area AQMD
Bob Nunes	Monterey Bay Unified APCD
Charles Anderson, Bruce Katayama, Greg Tholen, Brigitte Tollstrup	Sacramento Metro AQMD
Donald Hunsaker, Stephen Shaw, Evan Shipp, Michelle Stanley	San Joaquin Valley Unified APCD
Leonard Seitz	Caltrans Headquarters
Cari Anderson	Earth Matters
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Vernon Hughes, Ravi Ramalingam, Klaus Scott, Tess Sicat, Cheryl Taylor, Bruce Tuter, Ed Yotter	ARB

1. Welcome and Feedback on September 3 Meeting

ARB welcomed everyone to the call. Additional clarification was added to the second paragraph under “Other Issues” of the September 3 minutes. Earth Matters clarified that the updates to VMT were in response to an 8/15/03 letter from ARB requesting review. A letter had been sent to ARB providing comments on the VMT for the SJV COGs indicating that four VMT totals needed adjustment.

2. Update on Status of Gridded Inventory

The group reviewed the latest tracking sheet prepared by ARB that shows the status of the CCOS modeling inventories. Alpine Geophysics mentioned that they have removed all but the most current versions of the modeling files on the ftp site; all the previous files will be sent to ARB on tape and are available if anyone needs them. No other files were removed.

Alpine reported on the status of the gridded inventories:

July 1999 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year. Biogenics modeling files for the base year are also used for all future years (this applies to all episodes). Point and area modeling files are available. On-road motor vehicle files are available for the base year, 2005 and 2007. On-road motor vehicle modeling files for 2006 and 2010 will be available in the next couple of days.

July/August 2000 episode – Point source modeling files are completed for the base year (2000) and future years (2005, 2006, and 2010). The base year (2000) area source modeling files have been updated to include day-specific shipping emissions provided by the BAAQMD; the revised files will be posted soon. Area source modeling files for future years remain unchanged since mid-August. Biogenic modeling files have been revised to correct the error found in the isoprene emissions (see below, section 4. Biogenic Emissions). On-road motor vehicle files are available for all years. Revised summary reports for point and area sources (by county and EIC) that reflect the latest inventories will be posted shortly.

September 2000 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year (2000) and future years (2005, 2006, and 2010). Biogenic NO emissions have not been included in the biogenic modeling files for this episode.

August 2002 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year (2002) and future years (2005, 2007, 2008, 2010, 2012 and 2018).

July 1990 episode – Sacramento Metro AQMD mentioned that some modeling files are available for this episode. They requested that the tracking sheet be updated to reflect this information and report the vintage of the data.

3. Discussion on Wildfire Emissions

The group discussed the treatment of wildfire emissions in future year inventories. Options discussed by the group included:

- 1) Leave the wildfires out of future year modeling (done in past modeling work)
- 2) Include the base year wildfires in the future year modeling (same as the base year)
- 3) Include an average value of emissions based on some number of past years (e.g. 20 years, 40 years); possibly use map fire return intervals to determine the most likely place for fires to occur
- 4) Use a similar method for wildfires to what is being considered by the WRAP for the treatment of prescribed fires (Environ is reportedly looking into this)
- 5) Swap out day-specific wildfire emissions for different episodes to determine the effect of fires (e.g. swap fires in August 2000 with fires in August 2002)
- 6) Treat in initial conditions/boundary conditions

Participants on the call were encouraged to send to ARB their conceptual solutions or approaches on how to handle wildfire emissions in future year modeling. ARB will summarize the information gathered and provide it to the group for discussion at a future conference call.

4. Biogenic Emissions

Bay Area staff had previously asked about the VOC emissions on August 1 of the July/August 2000 episode since the hourly distribution appeared different than the other days of the episode. In particular, the emissions are fairly high at night and there was a dip in the emissions about 1 p.m. across the entire domain. Upon review by Alpine Geophysics and ARB, it was discovered that an error had occurred in the processing of the isoprene emissions for August 1. The problem only affected isoprene and only that day was affected. Alpine has corrected the problem and posted revised modeling files on the ftp site. ARB has rerun the air quality model with the revised file and noticed about a 1 ppb difference on August 1.

As mentioned previously, Alpine Geophysics has estimated biogenic NO emissions. These emissions were added to the biogenic emissions estimated by ARB using BEIGIS for the July 1999, August 2002, and July/August 2000 episodes. Biogenic NO emissions have not been added to the September 2000 episode. The tracking sheet for SIP modeling inventories has been updated to reflect whether biogenic NO has been added or not to the modeling inventories.

Alpine used a soil NO algorithm found in BEIS-3 to estimate biogenic NO for modeling purposes. This estimate is about double a previous estimate from UC Berkeley, which is still within the uncertainty of the estimation technique. ARB is looking into potential data sources or methods that could be used to validate the emission estimates such as using California-specific data. This latest biogenic NO estimate is about 2-3% of the total NO_x emissions in the domain. ARB is also modeling with and without biogenic NO to determine its impact on ozone concentrations. Once the sensitivity to biogenic NO emissions has been determined, ARB will consider whether to modify the new biogenic NO estimates or leave them as estimated by Alpine Geophysics.

5. Other Issues

Alpine Geophysics mentioned that the final Integrated Transportation Network (ITN) report has not been completed.

Previously, ARB distributed a draft report by Dr. Rob Harley (UCB) that applies a fuel-based emissions inventory method to estimate CO, NO_x, and NMOC on-road motor vehicle emissions in the Sacramento Valley, San Joaquin Valley, and the Bay Area. The fuel-based method is compared to EMFAC totals for the same areas. ARB will compile any comments that members of the group would like to provide.

Dr. Harley's report suggests that NO_x emissions from diesel engines could be underestimated in the San Joaquin Valley. Staff from the SJVUAPCD added that emissions from seasonal heavy-duty diesel trucks might not be fully captured in the current on-road motor vehicle inventory. Many of these trucks only operate two months of the year and only travel on local or collector roads. However, little information is available on which to base emission estimates.

ARB staff mentioned that they are looking at a recent heavy-duty truck survey completed by Caltrans. ARB staff is comparing VMT estimates from EMFAC with those from the survey. Preliminary findings are that the statewide VMT in EMFAC are in fairly good agreement with the survey, but that the distribution of VMT by region is different. ARB staff is continuing to investigate. The representative from Earth Matters mentioned that the SJV COGs are working on a truck model that will include commodity flow. The COGs hope to have a working version of the model in the next few months; the status of the model will be given at the next conference call. The topic of heavy-duty truck emissions will be added to the agenda.

BAAQMD staff has been comparing temperature fields used in the models with surface temperature observations for the July/August 2000 episode. BAAQMD staff observed that the temperatures developed through objective analysis by ARB look low compared to observations at some locations in the Bay Area (i.e. there seem to be “cold holes” upwind of Livermore). BAAQMD staff agreed to send the information to ARB for review.

6. Plans for Next Meeting

The next conference call is scheduled for Tuesday, September 30.

September 30, 2003

Attendees	Affiliation
Charles Anderson, Bruce Katayama, Brigitte Tollstrup	Sacramento Metro AQMD
David Nunes, Stephen Shaw, Michelle Stanley	San Joaquin Valley Unified APCD
Frank Law	Caltrans
Sally Rodeman	Caltrans District 10
Jason Paukovits	Fresno COG
Cari Anderson	Earth Matters
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Chris Emery	Environ
Mark Carlock, Vernon Hughes, Klaus Scott, Tess Sicat, Cheryl Taylor, Ed Yotter	ARB

1. Welcome and Feedback on September 17 Meeting

ARB welcomed everyone to the call. Introductions were made. The September 17 minutes were approved as written.

2. Status of Wildfire and Biogenic Emissions

ARB gave a status report on wildfire and biogenic emissions. On previous calls, the group discussed the treatment of wildfire emissions in future year inventories. Several options have been discussed. Participants were encouraged to send to ARB their conceptual solutions or approaches to ARB. ARB has received two comments to date; comments are still requested. ARB will summarize the information gathered and provide it to the group for discussion at a future conference call.

As mentioned previously, the biogenic modeling file for August 1, 2000 has been corrected and posted on Alpine’s ftp site. An error occurred during processing of the isoprene emissions that caused the hourly isoprene emissions to be distributed incorrectly over that day. ARB has rerun the air quality model with the revised file and noticed about a 1 ppb change in ozone concentration on August 1.

As mentioned previously, Alpine Geophysics has estimated biogenic NO emissions. These emissions were added to the biogenic emissions estimated by ARB using BEIGIS for the July 1999, August 2002, and July/August 2000 episodes; they were not added to the September 2000 episode.

The biogenic NO emissions estimated by Alpine were about double a previous estimate. ARB modeled with and without biogenic NO to determine its impact on ozone concentrations. ARB reported that they saw negligible impact on ozone concentrations. ARB will not pursue refinements to the biogenic NO estimates for the SIP modeling for the 1-hour ozone standard. The group agreed to add biogenic NO emissions to the September 2000 episode for consistency with the other episodes.

3. Discussion of Heavy-duty Truck Emissions

Earth Matters mentioned that an update on the truck model being developed by the San Joaquin Valley COGs was distributed to the group along with a draft report that is available for review. The truck model is jointly managed by Caltrans and the Fresno COG. A final report is scheduled for release in October. A steering committee has been organized to determine how the truck model will be used. Comments on the draft report can be provided to the Fresno COG. ARB asked if the truck model had been compared to EMFAC; Earth Matters will find out if a comparison is planned. ARB also asked to be included for receiving more details on the truck model.

Previously, ARB distributed a draft report conducted under CCOS by Dr. Rob Harley (UCB) that applies a fuel-based emissions inventory method to estimate CO, NO_x, and NMOC on-road motor vehicle emissions in the Sacramento Valley, San Joaquin Valley, and the Bay Area. Earth Matters provided comments, which will be included in ARB's comments on the report. At this point, the project stands as an independent, CCOS-based study of on-road motor vehicle emissions and will not directly result in changes to EMFAC.

ARB staff mentioned that they are looking at a recent Caltrans survey of 8200 heavy-duty trucks. SJVUAPCD staff asked if the survey captured seasonal trucks since they do not normally travel on freeways. ARB responded that they are probably not captured in the survey because they were conducted at truck stops. ARB pointed out that the heavy-duty emissions from EMFAC are based on DMV registration. As long as they are registered, the emissions from seasonal trucks are included in EMFAC. SJVUAPCD staff said that the seasonal trucks are registered with DMV. Although the emissions are included in EMFAC, the seasonal variation of the emissions is not well represented. The activity of these trucks is spread over the entire year. The on-road motor vehicle emissions used in modeling for the SIPs may be underestimated. ARB staff has been directed by its upper management to investigate the seasonality of on-road motor vehicle emissions. ARB staff is to determine whether there is a problem for the SIPs and, if so, what is its magnitude. If a problem is determined, ARB will make adjustments. ARB staff has been directed to review San Joaquin Valley first; changes to other areas will be considered after SJV. SJVUAPCD staff commented that modeling results are needed by the first of November. Sac Metro staff expressed similar concerns to San Joaquin about the seasonality of emissions; modeling results are needed by January 1 for Sacramento.

4. Update on Status of Gridded Inventory

Alpine reported on the status of the gridded inventories. The version control log (for the July/August 2000 episode) is being updated. Revised emission summaries and speciated summaries will be posted soon.

July 1999 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year. Biogenics modeling files for the base year are also used for all future years (this applies to all episodes). Point, area, and on-road motor vehicle modeling files are available for 2005, 2006, 2007, and 2010. Point source files have been revised and posted for the base year and all future years. It was discovered that some large facilities were missing UTM coordinates; the default is for the facility to be placed at the center of the county. These large facilities were assigned coordinates and the files reprocessed. The updated files have version V092703 in the file name.

July/August 2000 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year (2000) and future years (2005, 2006, and 2010). As described for the July 1999 episode above, base year and future year point source files have been revised and posted. The day-specific file for wildfires in the base year is being revised to vertically distribute the emissions of the smaller wildfires. Previously, only the two large fires (Manter and Plaskett) had vertical distributions.

September 2000 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year (2000) and future years (2005, 2006, and 2010). Biogenic NO emissions have not previously been included in the biogenic modeling files for this episode; Alpine Geophysics will add biogenic NO. As described for the July 1999 episode above, base year and future year point source files have been revised and posted. The day-specific file for wildfires in the base year is being revised to vertically distribute the emissions of the smaller wildfires.

August 2002 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year (2002) and future years (2005, 2007, 2008, 2010, 2012, and 2018). As described for the July 1999 episode above, base year and future year point source files have been revised and posted. The day-specific file for wildfires in the base year is being revised to vertically distribute the emissions of the smaller wildfires. Previously, only the McNally fire had vertical distribution.

August 1990 episode – Sacramento Metro AQMD mentioned that some modeling files are available for this episode. They requested that the tracking sheet be updated to reflect this information and report the vintage of the data.

5. Status of Integrated Transportation Network (ITN) Report

Alpine Geophysics reported that they are continuing to work on the final ITN report. ARB reported that the CCOS Technical Committee would like to see the report prior to modeling results. ARB asked Alpine to complete the final report in the next two weeks.

6. Other Issues

On previous calls, BAAQMD staff mentioned that they have been comparing temperature fields used in the models with surface temperature observations for the July/August 2000 episode. BAAQMD staff observed that the temperatures developed through objective analysis by ARB look low compared to observations at some locations in the Bay Area (i.e. there seem to be “cold holes” upwind of Livermore). BAAQMD staff is comparing RAMS, MM5, and ARB’s objective analysis against observations. At the request of the BAAQMD, Alpine Geophysics has created new biogenic emissions (using BEIGIS) and new on-road motor vehicle emissions using RAMS temperatures. Biogenic emissions generally increased about 5% overall in the Bay Area, although there was a small drop in isoprene in the first three days of the episode due to cloudiness. The rest of the domain showed about a 10% increase in isoprene emissions. For the new on-road motor vehicle emissions, there was a general increase in emissions with three exceptions: 1) In the Sacramento area, the overall TOG emissions were about the same. 2) Also in the Sacramento area, the TOG emissions increased in the first three days and decreased in the last three days. 3) In the Bay Area, the NOx emissions stayed about the same overall, but TOG increased about 5%. Alpine agreed to send ARB the RAMS data. BAAQMD staff is generating graphics that can be shared.

7. Plans for Next Meeting

The next conference call is scheduled for Wednesday, October 15.

October 15, 2003

Attendees	Affiliation
Phil Martien, Amir Fanai	Bay Area AQMD
Bruce Katayama, Greg Tholen, Brigitte Tollstrup	Sacramento Metro AQMD
Donald Hunsaker, Tom Jordan, David Nunes, Stephen Shaw, Michelle Stanley	San Joaquin Valley Unified APCD
Dick Fahey	Caltrans District 4
Sally Rodeman	Caltrans District 10
Frank Law, Wayne Luney, Leonard Seitz	Caltrans Headquarters
Cari Anderson	Earth Matters
Jim Wilkinson	Alpine Geophysics
Klaus Scott, Tess Sicat, Cheryl Taylor	ARB

1. Welcome and Feedback on September 30 Meeting

ARB welcomed everyone to the call. Introductions were made. The September 30 minutes were approved as written.

2. Freezing Inventory for SIP Planning

ARB mentioned that the future year attainment-level inventories for the July/August 2000 episode need to be frozen. The base case model performance and future base case are frozen. This item will be discussed further at the October 20 all-district modeling call.

3. Discussion of Heavy-duty Truck Emissions

At previous meetings, the truck model being developed for the San Joaquin Valley COGs was discussed. ARB asked if the truck model had been compared to EMFAC. The representative from Earth Matters said that she believes that a second document exists that discusses emissions; she will send the document to ARB for distribution when it becomes available.

Previously, ARB staff mentioned that they are looking at a recent Caltrans survey of 8200 heavy-duty trucks. Caltrans staff provided additional information about the survey. ARB staff is investigating the use of the Caltrans survey information to possibly redistribute heavy-duty truck activity. Currently in EMFAC, emissions from heavy-duty trucks are based on DMV registration.

During earlier calls, members of the group have expressed concern that seasonal truck activity is not captured well in EMFAC. Although the emissions from seasonal trucks are included in EMFAC since they are registered with DMV, the seasonal variation of the emissions is not well represented. ARB staff is investigating the seasonality of on-road motor vehicle emissions. Sacramento Metro AQMD staff reported at an earlier call that SACOG had studied the seasonal activity of trucks in the Sacramento area. ARB has requested information from SACOG and is waiting for a response. In addition to the seasonal, temporal variation, the spatial variation would also need to be addressed.

4. Update on Status of Gridded Inventory

ARB reported that few changes have been made since the last call. Following is the status of the inventories for each episode.

July 1999 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year. Biogenics modeling files for the base year are also used for all future years (this applies to all episodes). Point, area, and on-road motor vehicle modeling files are available for 2005, 2006, 2007, and 2010. An error has been found in the weekend on-road motor vehicle emissions. Revised modeling files will be posted soon. The weekday on-road motor vehicle emissions were unaffected.

July/August 2000 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year (2000) and future base case years (2005, 2006, and 2010).

September 2000 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year (2000) and future base case years (2005, 2006, and 2010). Biogenic NO emissions have not previously been included in the biogenic modeling files for this episode; Alpine Geophysics will add biogenic NO.

August 2002 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year (2002) and future base case years (2005, 2007, 2008, 2010, 2012, and 2018). An error has been found in the weekend on-road motor vehicle emissions. Revised modeling files for the weekend only have been posted. The weekday on-road motor vehicle emissions remain unchanged.

August 1990 episode – Sacramento Metro AQMD mentioned that some modeling files are available for this episode. They requested that the tracking sheet be updated to reflect this information and report the vintage of the data.

5. Status of Integrated Transportation Network (ITN) Report

Alpine Geophysics reported that they plan to post the latest revision to the ITN report by October 17. ARB will send a note to the group when the report is available for review.

6. Other Issues

BAAQMD staff has been comparing temperature fields used in the models with surface temperature observations for the July/August 2000 episode. BAAQMD staff observed that the temperatures developed through objective analysis by ARB look low compared to observations at some locations. BAAQMD staff has prepared a revised temperature field that will be ready today. BAAQMD staff has directed Alpine to create revised biogenic and on-road motor vehicle emissions estimates to determine the change from previous emission estimates. BAAQMD will notify ARB when the revised temperature field is available on Alpine's ftp site. ARB will review the information.

BAAQMD staff said that they have been comparing the emissions summary reports from the ftp site with summer planning emission estimates for the Bay Area for the July/August 2000 episode. They expressed concern about the CO and TOG emissions for the individual days compared to the emissions estimated by ARB available on the web. BAAQMD staff agreed to send ARB and Alpine Geophysics the comparison information for investigation.

The group asked that the status of wildfires be added to the agenda for the next call.

7. Plans for Next Meeting

The next conference call is scheduled for Wednesday, October 29.

October 29, 2003

Attendees	Affiliation
Amir Fanai, Toch Mangat, Phil Martien	Bay Area AQMD
Charles Anderson, Bruce Katayama, Brigitte Tollstrup	Sacramento Metro AQMD
Donald Hunsaker, David Nunes, Evan Shipp, Michelle Stanley	San Joaquin Valley Unified APCD
Harold Brazil	MTC
Wayne Luney, Leonard Seitz	Caltrans Headquarters
Cari Anderson	Earth Matters
Cyndi Loomis	Alpine Geophysics
Vernon Hughes, Doug Ito, Anne Lin, Ravi Ramalingam, Tess Sicat, Cheryl Taylor, Bruce Tuter, Ed Yotter	ARB

1. Welcome and Feedback on October 15 Meeting

ARB welcomed everyone to the call. Introductions were made. San Joaquin staff asked about the accuracy of the write-up related to "Discussion of Heavy-duty Truck Emissions." After discussion and clarification, the minutes were accepted as written.

2. Freezing Inventory for SIP Planning

ARB described the overall process for SIP modeling. There are three phases. The first phase is base-case modeling. Meteorology and emissions are developed to simulate as closely as possible the conditions during each day of the episode being modeled. Model performance must meet EPA's criteria for model performance. ARB has achieved adequate model performance for the July/August 2000 episode. Once adequate base-case model performance is achieved, the model is run using future year emissions that reflect growth in emission categories as well as the effect of adopted control measures. This second phase is base-case future year modeling. Carrying capacity diagrams are developed to aid planners in developing reduction strategies to reach the air quality standard. ARB has completed carrying capacity diagrams for the July/August 2000 CCOS episode and made this information available to the air districts. The third phase is attainment strategy modeling. The model is run using inventories that reflect proposed control measures needed to attain the standard.

ARB is now preparing for attainment modeling (third phase) for the July/August 2000 CCOS episode. At the end of August and early September 2003, ARB sent letters to the districts and COGs requesting any changes to emissions or vehicle activity that would be included in attainment strategy modeling runs. ARB did receive some changes that will be updated. ARB was asked if the first and second phases will be rerun due to changes in the inventory. ARB said no, since adequate model performance has been reached. ARB now considers the inventories for the base-case modeling and base-case future year modeling frozen.

Based upon BAAQMD/ENVIRON modeling, BAAQMD staff have expressed some concerns about the base year and future year inventories at previous meetings of this group and at Bay Area Modeling Advisory Committee meetings. BAAQMD staff wants to resolve their inventory concerns before they move on to attainment strategy runs. However, BAAQMD staff acknowledged that time is short for SJVUAPCD staff to meet SIP deadlines.

ARB asked each district when they would need the results of draft and final attainment modeling runs. Sacramento Metro staff said that they would need draft runs in late January 2004. They will be holding a workshop to discuss proposed control strategies in March and would need final attainment modeling runs completed in May. San Joaquin Valley staff said that they plan to have a workshop in mid-December and would like to have the results of draft attainment runs to share at the workshop. Bay Area staff replied that the schedule for the Bay Area is uncertain; they will get back to ARB.

ARB is developing a spreadsheet for receiving control strategy information from the districts. ARB asked who from each district would be the best contact for requesting this information. Brigitte Tollstrup will be the contact for Sacramento, Stephen Shaw will be the contract for San Joaquin, and Jean Roggenkamp will be the contact for Bay Area.

3. Mobile Source Issues

ARB presented information to the group related to EMFAC and conformity. EMFAC is the official EPA-approved mobile source emission factor model in California. EMFAC is used to estimate on-road mobile source emissions for use in SIP development and transportation conformity determinations. ARB finished a comprehensive update of EMFAC last year (EMFAC2002). While EMFAC will be updated in the future, ARB does not have a schedule for an update at this time. Travel activity data from travel model output provided by local transportation planning agencies were included as part of the EMFAC update, and continue for conformity purposes per federal conformity regulation requirements. As a result of the EMFAC model update, many SIPs in California also had to be updated. Any additional model changes to EMFAC would require model approval by EPA for use in the SIPs and conformity, and could effectively require SIP updates.

As discussed at previous meetings, ARB is studying a Caltrans survey of heavy-duty trucks, and will work closely with the districts and COGs prior to an EMFAC model update that would incorporate any changes. The Caltrans survey indicates a different geographic distribution of heavy-duty truck travel than what is currently in EMFAC2002.

Members of the group continue to express concern that seasonal truck activity is not captured well in EMFAC, causing summertime emissions to be underestimated. ARB staff is investigating the seasonality of on-road motor vehicle emissions, but work is not yet completed. Updated activity normally comes from local travel demand models. ARB staffs believe that the incorporation of seasonal trends would constitute an EMFAC

model change. It was suggested that districts who are concerned about this issue should elevate their concerns to their planning managers to initiate policy discussions with ARB's management.

4. Status of Wildfires

Since the occurrence and extent of wildfires is unpredictable, ARB will exclude wildfire emissions from future year modeling runs. Wildfires have been excluded from the future year base-case runs used to develop carrying capacities. This group has discussed various options on how to treat wildfires in future year modeling runs (both base-case and attainment). Although ARB staff believes that wildfires are likely to occur in future years, no one knows when or where they will occur. The Smoke Management Plan is intended to reduce the likelihood of wildfires by allowing prescribed burning.

San Joaquin Valley staff expressed the opinion that this subject needs more discussion and that this issue is still not decided. They would like to consider putting some average wildfire emissions in the future years. They also asked if sensitivity runs could be made with and without fires. ARB staff suggested that districts' staffs who are concerned about this issue should raise the issue for discussion with upper management at their districts and ARB.

5. Temperature Fields for July/August 2000 Episode

As mentioned previously, BAAQMD staff observed that the temperatures developed through objective analysis by ARB looked low compared to observations at some locations for the July/August 2000 episode. As a result, BAAQMD staff prepared an alternative temperature field and directed Alpine Geophysics to create revised biogenic and on-road motor vehicle emissions estimates. BAAQMD staff reported that there are differences in the biogenic and on-road motor vehicle modeling inventories, but the impact was not as great as they expected to find. BAAQMD's temperature field is now available on Alpine's ftp site. ARB will review the information. If the ARB agreed to use the BAAQMD's temperature field, it would be used for attainment runs. Base-case modeling will not be revisited. ARB will give a status report to the group at the next call on the results of its review of the BAAQMD's temperature field and its possible use in attainment runs.

6. Update on Status of Gridded Inventory

ARB reported that one change had been made since the last call. Following is the status of the inventories for each episode.

July 1999 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year. Biogenics modeling files for the base year are also used for all future years (this applies to all episodes). Point, area, and on-road motor vehicle modeling files are available for 2005, 2006, 2007, and 2010. Previously, an error was found in the weekend on-road motor vehicle emissions.

Revised modeling files have been posted. The weekday on-road motor vehicle emissions were unaffected.

July/August 2000 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year (2000) and future base-case years (2005, 2006, and 2010).

September 2000 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year (2000) and future base-case years (2005, 2006, and 2010). Biogenic NO emissions have not previously been included in the biogenic modeling files for this episode; Alpine Geophysics will add biogenic NO.

August 2002 episode – Point, area, biogenic, and on-road motor vehicle modeling files are completed for the base year (2002) and future base-case years (2005, 2007, 2008, 2010, 2012, and 2018).

August 1990 episode – Sacramento Metro AQMD mentioned that some modeling files are available for this episode. They requested that the tracking sheet be updated to reflect this information and report the vintage of the data.

7. Status of Integrated Transportation Network (ITN) Report

Alpine Geophysics reported that they plan to post the latest revision to the ITN report by November 7. ARB will send a note to the group when the report is available for review.

8. Other Issues

During the last call, BAAQMD staff said that they had been comparing the emissions summary reports from the ftp site with summer planning emission estimates for the Bay Area for the July/August 2000 episode. They expressed concern about the CO and TOG emissions for the individual days compared to the emissions estimated by ARB and available on the web. BAAQMD staff sent ARB and Alpine Geophysics the comparison information for investigation. ARB staff responded that they had looked at the emissions comparisons. ARB staff would send the BAAQMD staff the information they had gathered along with an explanation that is hoped to alleviate the BAAQMD's concerns.

BAAQMD staff expressed concern about the volumes of heavy-duty trucks on weekdays versus weekend days. ARB said (this statement was later discovered to be incorrect; please see Important Note below) that the only differences between weekday and weekend emissions are due to day-specific temperatures and relative humidity along with the spatial and temporal variations developed by Dr. Deb Niemeier. Otherwise the emissions from EMFAC are the same for weekdays and weekends. The BAAQMD has received information from MTC showing reduced volumes of trucks on the weekends. Several members of the group expressed concern about the volumes of cars and trucks not being adjusted on weekend days. **[IMPORTANT NOTE:** Since this

meeting, ARB staff discovered that they were incorrect about the statements made in the previous paragraph concerning weekday and weekend on-road motor vehicle estimates used in modeling. The following paragraph describes how the motor vehicle emissions from EMFAC are adjusted for a weekend day in the modeling inventories. ARB staff paraphrased this information from a note by Jim Wilkinson, Alpine Geophysics, who developed the ITN and developed the on-road motor vehicle modeling files for many of the episodes.

The on-road motor vehicle emissions are calculated using EMFAC, based on the VMT in EMFAC. However, the weekend VMT to weekday VMT ratio from the ITN is used to scale the EMFAC emissions to a "weekend" estimate. The ITN is comprised of the travel networks that were provided to Alpine Geophysics by CCOS domain transportation agencies. Again to reiterate, EMFAC estimates average weekday emissions based on VMT that resides in EMFAC. To be more specific, the weekend day on-road mobile source CO, TOG, and NOx emissions are less than the weekday emissions by roughly 12% (i.e., the weekend days are equal to about 88% of the weekday on-road mobile source emissions). The exception is for heavy-duty diesel vehicle NOx emissions. Heavy-duty diesel NOx emissions are lower by about 46% on the weekend days. ARB developed the scaling factors (i.e., 0.88 for TOG, NOx, and CO with the exception for HDDV NOx being 0.54) based on the ratio of weekend VMT to weekday VMT.]

9. Plans for Next Meeting

The next conference call is scheduled for Thursday, November 13.

November 13, 2003

Attendees	Affiliation
Amir, Fanai, Toch Mangat, Phil Martien	Bay Area AQMD
Bruce Katayama, Greg Tholen, Brigitte Tollstrup	Sacramento Metro AQMD
Donald Hunsaker, David Nunes, Evan Shipp,	San Joaquin Valley Unified APCD
Harold Brazil	MTC
Wayne Luney, Sally Rodeman	Caltrans
Cari Anderson	Earth Matters
Cyndi Loomis, Jim Wilkinson	Alpine Geophysics
Chris Emery	Environ
Paul Allen, Daniel Chau, John DaMassa, Kemal Gurer, Vernon Hughes, Doug Ito, Bruce Jackson, Ajith Kaduwela, Klaus Scott, Tess Sicat, Neva Sotolongo, Cheryl Taylor, Bruce Tuter, Eugene Yang, Ed Yotter	ARB

1. Welcome and Feedback on October 15 Meeting

ARB welcomed everyone to the call. Introductions were made. The minutes were accepted as written.

2. Correction: Weekend Mobile Source Emissions

At the October 29 meeting, ARB incorrectly stated that the only differences between weekday and weekend emissions are due to day-specific temperatures and relative humidity, along with the spatial and temporal variations developed by Dr. Deb Niemeier. ARB described the correct method for calculating on-road motor vehicle emissions on weekend days for the CCOS episodes, as follows. The on-road motor vehicle emissions are calculated using EMFAC based on the VMT in EMFAC. However, the weekend VMT to weekday VMT ratio from the ITN is used to scale the EMFAC emissions to a "weekend" estimate on a county-by-county basis. The ITN is comprised of the travel networks that were provided to Alpine Geophysics by CCOS domain transportation agencies. Specifically, the weekend day on-road mobile source CO, TOG, and NOx emissions are less than the weekday emissions by roughly 12% (i.e., the weekend days are equal to about 88% of the weekday on-road mobile source emissions). The exception is for heavy-duty diesel vehicle NOx emissions. Heavy-duty diesel NOx emissions are lower by about 46% on the weekend days.

In order to avoid confusion in the future, the BAAQMD staff suggested that ARB provide documentation on exactly how the on-road mobile source emissions were adjusted for weekdays and weekend days. ARB is already working on documentation for how the modeling inventories were created, including point, area, biogenic and on-road mobile sources. ARB will distribute the documentation by early December.

3. Policy Issues: Conformity/Wildfires

At the last meeting, ARB stated that modeling staff has been directed to exclude wildfire emissions from future year modeling runs given their unpredictable nature. Several districts' staff said they felt that this subject needed more discussion. They would like to consider putting some average wildfire emissions in the future years. They also asked if sensitivity runs could be made with and without fires. ARB staff suggested that districts' staffs who were concerned about this issue should raise the issue for discussion with upper management at their districts and ARB.

At today's meeting, Sacramento Metro and San Joaquin Valley staff said that they had raised the issue with their management, but that a final decision on how to handle future year wildfire emissions had not been made. Staffs from all three districts again suggested including some average wildfire emissions in the future years. They also suggested doing modeling runs with and without fires. ARB staff reiterated that districts' staffs who are concerned about this issue should raise the issue for discussion with upper management at their districts and ARB.

The group did not discuss any policy issues related to conformity.

4. BAAQMD Mobile and Biogenic Issues

As mentioned previously, BAAQMD staff observed that the temperatures developed through objective analysis by ARB looked low compared to observations at some locations for the July/August 2000 episode. As a result, BAAQMD staff prepared an alternative temperature field and directed Alpine Geophysics to create revised biogenic and on-road motor vehicle emissions estimates. BAAQMD staff reported that there are

differences in the biogenic and on-road motor vehicle modeling inventories, but the impact was not as great as they expected to find. BAAQMD staff also reported that they have run their emissions through CAMx and found that the changes in ozone were not large. BAAQMD's temperature field and modeling results are now available on Alpine's ftp site.

At the last meeting, ARB agreed to review the temperature fields. ARB also ran the BAAQMD's emissions through CAMx. Similar to the BAAQMD, ARB found no major changes in predicted ozone, with slight improvements and degradations at various locations around the domain.

The BAAQMD temperature field is a hybrid of observations and RAMS with FDDA. Environ expressed the opinion that the temperatures from RAMS are more representative than the temperatures from MM5. In particular, the temperatures over the Sierras are warmer than the temperatures developed by ARB. BAAQMD staff said that they have more confidence in their temperature fields. No final decision was made on which temperature field will be used for the attainment runs.

BAAQMD staff said that they are trying to understand why ozone is underpredicted in their modeling simulations. Changes to the temperature fields do not explain the low ozone values. The BAAQMD does not plan to make more adjustments to temperatures.

BAAQMD staff has documented the method for developing their surface temperature field, which they previously shared with ARB. They agreed to expand their documentation to include the effect on emissions and their CAMx results. BAAQMD staff agreed to send their documentation to the ARB.

5. Attainment Modeling

ARB asked each district when they would need the results of draft and final attainment modeling runs. San Joaquin Valley staff said that they plan to have a workshop in early January and would like to have modeling results to share at the workshop. Preliminary modeling results would be needed by mid-December for 2000, 2005 and 2010. SJV staff plan to have their third workshop in March 2004 where they will show more modeling results and attainment demonstration. SJVUAPCD will receive and file in April with final adoption in May 2004. The San Joaquin Valley district board is expected to voluntarily reclassify from severe to extreme in December 2003. This action will change the date needed for attainment to from 2005 to 2010. SJV staffs are working on providing control strategy information to ARB for attainment modeling runs.

Sacramento Metro staff said that they will have no new proposed control measures available until January or February. They need to define a control strategy before control factors can be determined. Bay Area staff said that the schedule for the Bay Area is uncertain.

ARB said they would need about two weeks for modeling results after receiving revised inventories. ARB plans to develop new modeling files that reflect recent point and area source updates made by the districts and ARB. The modeling files will include the

benefits from proposed state and federal measures as well as reflect the effects of proposed control measures for the districts.

1. Update on Status of Gridded Inventory

Alpine Geophysics reported that no changes had been made since the last call. Due to possible problems, Alpine reposted the modeling files for elevated fires per ARB's request. Following is the status of the inventories for each episode.

July 1999 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year. Biogenics modeling files for the base year are also used for all future years (this applies to all episodes). Point, area and on-road motor vehicle modeling files are available for 2005, 2006, 2007 and 2010.

July/August 2000 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year (2000) and future base-case years (2005, 2006, and 2010).

September 2000 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year (2000) and future base-case years (2005, 2006, and 2010). Biogenic NO emissions have not previously been included in the biogenic modeling files for this episode; Alpine Geophysics will add biogenic NO.

August 2002 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year (2002) and future base-case years (2005, 2007, 2008, 2010, 2012 and 2018).

July 1990 episode – Point, area, biogenic and on-road motor vehicle modeling files are available for 1990 and 2005. These inventories were developed in 1994. The on-road motor vehicle estimates were revised in 2002 to reflect EMFAC2002. The biogenic emission estimates were recreated in 2002 using BEIGIS. Biogenic NO was not included.

2. Status of Integrated Transportation Network (ITN) Report

Alpine Geophysics reported that the ITN report is not yet completed. ARB will send a note to the group when the report is available for review.

8. Other Issues

ARB mentioned that they plan to combine the SIP Gridded Inventory Coordination Group and All-District Modeling calls into one meeting.

ARB announced that Ed Yotter is retiring at the end of November. Congratulations Ed!

9. Plans for Next Meeting

The next conference call is scheduled for Tuesday, December 2 at 10:00 a.m.

December 18, 2003

Attendees	Affiliation
Toch Mangat, Phil Martien, Saffet Tanrikulu	Bay Area AQMD
Bruce Katayama, Greg Tholen, Brigitte Tollstrup	Sacramento Metro AQMD
David Nunes, Stephen Shaw, Michelle Stanley, James Sweet	San Joaquin Valley Unified APCD
Bob Nunes	Monterey Bay Unified APCD
Wayne Luney, Leonard Seitz	Caltrans
Cari Anderson	Earth Matters
Jim Wilkinson	Alpine Geophysics
Chris Emery	Environ
Daniel Chau, Vernon Hughes, Bruce Jackson, Ajith Kaduwela, Anne Lin, Cheryl Taylor, Bruce Tuter	ARB

1. Welcome and Feedback on November 13 Meeting

ARB welcomed everyone to the call. Introductions were made. The minutes were accepted as written. Earth Matters made two suggestions for future meetings. First, ARB should clearly specify in future minutes which episode is being discussed. Second, ARB should develop a tracking sheet for modeling work similar to what has been done for emissions. It should show the status of completed modeling work by episode for base case, future year base case and attainment runs.

2. Attainment Modeling

The group discussed the availability of control factors from proposed control measures to use in attainment modeling runs. ARB has received control factor information from San Joaquin Valley staff. SJV is having workshops on January 6 and 7 where they will present the modeling results of the base case and future year base case for the July/August 2000 episode. SJV staff would like to have modeling results for the September 2000 episode to share at their next workshop.

Sacramento Metro staff said that they will have no new proposed control measures available until January or February. They need to define a control strategy before control factors can be determined.

Control factors are not yet available for the Bay Area because the proposed control measures are not ready yet; control factors will be provided at a later date.

ARB mentioned that they have provided future year emission targets for the July/August 2000 episode to both San Joaquin Valley and Sacramento district staff. Discussions will continue into January. In the package sent to each district, ARB provided documentation on development of the meteorology and the modeling emission inventories.

3. Documentation of Modeling Emission Inventory

ARB recently distributed to the group a draft document that describes how the modeling emission inventories were developed. ARB walked the group through the basic organization of the document. The document and its appendices are available on Alpine Geophysics' ftp site under CCAQS_Emissions/Emission Inventory Documentation. The document is still being expanded by ARB, including the addition of graphics and

summaries of the emissions by domain and by region. The group is encouraged to provide comments in writing to Cheryl Taylor of ARB (cataylor@arb.ca.gov).

Caltrans staff suggested putting more emphasis on the use of DTIM in the development of the ITN, particularly in light of recent work by Dr. Debbie Niemeier of UC Davis. Dr. Niemeier is publishing a paper in the January 3 Atmospheric Environment titled "UCDrive: a new gridded mobile source emission inventory model." The group discussed some of the differences between DTIM and EMFAC. Caltrans staff were asked to provide specific written comments to ARB.

4. Status of Revised Integrated Transportation Network (ITN) Report

Alpine Geophysics reported that the draft final ITN report would be available by the end of the week. ARB will distribute the report to the group after a short review.

5. Policy Issues: Wildfires

At previous meetings, ARB stated that modeling staff has been directed to exclude wildfire emissions from future year modeling runs. Several districts' staff said they felt that this subject needed more discussion. They would like to consider putting some average wildfire emissions in the future years. They also asked if sensitivity runs could be made with and without fires. ARB staff suggested that districts' staffs who were concerned about this issue should raise the issue for discussion with upper management at their districts and ARB.

At today's meeting, Sacramento Metro, San Joaquin Valley and Bay Area staff all reported that they had discussed the issue with their management, but that a final decision on how to handle future year wildfire emissions had not been made.

6. Update on Status of Gridded Inventory

ARB reported that one change had been made since the last call. Alpine Geophysics has estimated biogenic NO for the September 2000 episode. Revised biogenic files that include biogenic NO have been posted on Alpine Geophysics' ftp site. Following is the status of the inventories for each episode.

July 1999 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year. Biogenics modeling files for the base year are also used for all future years (this applies to all episodes). Point, area and on-road motor vehicle modeling files are available for 2005, 2006, 2007 and 2010.

July/August 2000 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year (2000) and future base-case years (2005, 2006, and 2010).

September 2000 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year (2000) and future base-case years (2005, 2006, and 2010). Biogenic NO emissions have now been included.

August 2002 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year (2002) and future base-case years (2005, 2007, 2008, 2010, 2012 and 2018).

July 1990 episode – Point, area, biogenic and on-road motor vehicle modeling files are available for 1990 and 2005. These inventories were developed in 1994. The on-road motor vehicle estimates were revised in 2002 to reflect EMFAC2002. The biogenic emission estimates were recreated in 2002 using BEIGIS. Biogenic NO was not included.

7. Other Issues

No other issues were discussed.

8. Plans for Next Meeting

The next conference call is scheduled for Wednesday, January 14 at 10:00 a.m.

January 14, 2004

Attendees	Affiliation
Amir Fanai, Phil Martien, Saffet Tanrikulu	Bay Area AQMD
Charles Anderson, Bruce Katayama, Greg Tholen, Brigitte Tollstrup	Sacramento Metro AQMD
David Nunes, Stephen Shaw, Evan Shipp, Michelle Stanley, James Sweet	San Joaquin Valley Unified APCD
Leonard Seitz	Caltrans
Cari Anderson	Earth Matters
Jim Wilkinson	Alpine Geophysics
Bill Stockwell	DRI
Chris Emery	Environ
Vernon Hughes, Bruce Jackson, Ajith Kaduwela, Klaus Scott, Tess Sicat, Cheryl Taylor, Eugene Yang	ARB

1. Welcome and Feedback on December 18 Meeting

ARB welcomed everyone to the call. Introductions were made. The minutes were accepted as written.

2. Status of Revised Integrated Transportation Network (ITN) Report

On December 22, ARB distributed the draft final ITN report to the group and asked for comments. ARB received one comment from the Sacramento Metro AQMD:

Request further explanation of the following statement from the ITN report pg 4-8 Step 5: "....Since heavy-duty diesel VMT is drastically reduced on weekends and their effect is largely on NOX emissions, NOX emissions were scaled by a factor of 0.536, which represents the average reduction in NOX emissions for a South Coast Air Basin weekend day."

My concern is the chemistry (i.e. NOx inhibition) is very different here in our area (Sac Metro) compared to SoCAB, based on what DRI reported in their observational analysis. I suspect other areas differ also. Does it makes sense to reduce weekend HD weekend NOX by 50+% based on a SoCAB weekend day across the board?

ARB staff responded that the factor of 0.536 was developed based on data recorded from traffic counts from about 20 Weigh-In-Motion (WIM) stations from the SoCAB. There are 20-30 stations in all of Northern California. ARB is responding to this question in two ways.

First, ARB will analyze what data are available for Northern California. Second, ARB is running modeling simulations to look at the effect of the weekend motor vehicle inventory on the ozone concentrations. ARB is replacing the Saturday and Sunday on-road motor vehicle inventories in the July/August 2000 episode with the Monday on-road motor vehicle inventory from that episode to determine what difference it makes. ARB will report the results to the group at the next call.

BAAQMD and SJVUAPCD staffs said that they would provide comments to ARB next week. Additionally, SJV staff suggested that a table be added to the report. The table would list the counties for which local transportation data were not used in the ITN.

Caltrans staff complimented Alpine Geophysics on the thoroughness of the report. Since funds are nearly expended for this project, Caltrans staff wondered who would continue to work on this project such as updating the ITN with the new Caltrans Statewide Transportation Model when it is completed. Caltrans staff reported that the 2000 base year is nearly finished, but the future years have yet to be done. Caltrans staff suggested that perhaps Caltrans might continue this work. Caltrans staff will suggest to Caltrans management that they take on this project.

3. Documentation of Modeling Emission Inventory

Previously, ARB distributed to the group a draft document that describes how the modeling emission inventories were developed. ARB reported that they have not received any comments. ARB is continuing to expand the document and will post a new version when substantial changes have been made. The group is encouraged to provide comments in writing to Cheryl Taylor of ARB (cataylor@arb.ca.gov).

The group discussed the hourly distribution of on-road motor vehicle emissions on weekends. Alpine Geophysics staff described how weekend emissions are developed. During this discussion, the group determined that the following statement in the emission inventory documentation is incorrect as stated: "Even though we feel that the weekend inventories are approximate at the hour and county level, the lack of weekend transportation models result in the same hourly spatial distribution for each county for both weekday and weekend days." Distinct weekend and weekday distributions were available from the data gathered during the CCOS field study in 2000 by Dr. Niemeier of UC Davis. ARB will correct the emission inventory documentation.

BAAQMD staff pointed out that the hourly distribution profiles (for both weekdays and weekends) are the same for light-duty and heavy-duty vehicles. BAAQMD staff was asked to send their observation in an email to ARB. This point will be noted in the emission inventory documentation and the ITN report. Additionally, Caltrans staff offered to investigate the availability of traffic count information to develop hourly distributions.

4. Attainment Modeling

The group discussed the availability of control factors from proposed control measures to use in attainment modeling runs. ARB has received control factor information from San Joaquin Valley staff for 2005. Sacramento Metro staff said that they will have no new proposed control measures available until February. Control factors are not yet available for the Bay Area.

5. Policy Issues: Wildfires

SJVUAPCD staff said that they are still undecided on how to handle wildfire emissions in future year modeling runs. ARB staff suggested that districts' staffs who were concerned about this issue should raise the issue for discussion with upper management at their districts and ARB. The group raised the question about what EPA expects to see addressed in the SIPs related to wildfires in future years. It may be difficult to justify them as exceptional events since they occurred somewhere in the domain in every episode being modeled.

6. Update on Status of Gridded Inventory

ARB reported that the only recent change has been to include biogenic NO for the September 2000 episode. The group discussed the use of temperature in the calculation of biogenic NO. Following is the status of the inventories for each episode.

July 1999 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year. Biogenics modeling files for the base year are also used for all future years (this applies to all episodes). Point, area and on-road motor vehicle modeling files are available for 2005, 2006, 2007 and 2010.

July/August 2000 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year (2000) and future base-case years (2005, 2006, and 2010).

September 2000 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year (2000) and future base-case years (2005, 2006, and 2010). Biogenic NO emissions have now been included.

August 2002 episode – Point, area, biogenic and on-road motor vehicle modeling files are completed for the base year (2002) and future base-case years (2005, 2007, 2008, 2010, 2012 and 2018).

July 1990 episode – Point, area, biogenic and on-road motor vehicle modeling files are available for 1990 and 2005. These inventories were developed in 1994. The on-road motor vehicle estimates were revised in 2002 to reflect EMFAC2002. The biogenic emission estimates were recreated in 2002 using BEIGIS. Biogenic NO was not included.

7. Other Issues

Leonard Seitz (not representing any organization) mentioned that he had made personal comments to EPA Docket OAR-2003-0049-0116 to allow photochemical modeling for conformity analysis. Leonard asked that his comments be distributed to the group.

8. Plans for Next Meeting

The next conference call is scheduled for Wednesday, February 4 at 10:00 a.m.

February 11, 2004

Attendees	Affiliation
Amir Fanai, Toch, Mangat, Phil Martien, Saffet Tanrikulu	Bay Area AQMD
Kristian Damkier, Tom Infusino, Aleta Kennard, Greg Tholen, Brigitte Tollstrup	Sacramento Metro AQMD
Donald Hunsaker, David Nunes, Stephen Shaw, Michelle Stanley	San Joaquin Valley Unified APCD
Vahid Nowshiravan, Leonard Seitz	Caltrans
Harold Brazil	MTC
Jim Wilkinson	Alpine Geophysics
Cari Anderson	Earth Matters
Kemal Gurer, Neva Sotolongo, Cheryl Taylor, Bruce Tuter	ARB

1. Welcome and Feedback on January 14 Meeting

ARB welcomed everyone to the call. Introductions were made. The minutes were accepted as written. Staff from Earth Matters suggested that the agenda item "Update of Status of Gridded Inventory" simply list what has changed since the last meeting.

2. Status of Revised Integrated Transportation Network (ITN) Report

During the last meeting, the group discussed a comment from the Sacramento Metro AQMD staff questioning the scaling factor of 0.536 applied to heavy-duty diesel NOx emissions to estimate a weekend day. ARB agreed to investigate this question in two ways and report the results to the group:

First, ARB noted that the factor of 0.536 was developed based on data recorded from traffic counts from Weigh-In-Motion (WIM) stations in Southern California. ARB agreed to analyze what data are available for Northern California. ARB reported that they have analyzed about 2/3 of the WIM data for 2001 for California. Of the data analyzed, the preliminary ratio of the weekend to weekday counts is around 0.3. There also may be a difference between Saturday and Sunday. These data are very preliminary; ARB staff will continue the analysis and report back to the group.

Second, ARB staff agreed to run modeling simulations to look at the effect of the weekend motor vehicle inventory on the ozone concentrations. ARB staff replaced the Saturday and Sunday on-road motor vehicle inventories with the Monday on-road motor vehicle inventory in the July/August 2000 episode to determine the effect the weekend emissions have on ozone concentrations. ARB staff included the modeling results with the agenda for this meeting. To display the results, ARB staff developed an animation that showed the difference in ozone concentration by hour from Saturday, July 29 through Wednesday, August 2, 2000. The animation displayed the difference in ozone concentration between two simulations: 1) on-road motor vehicle emissions on Monday substituted for Saturday and Sunday and 2) the current baseline simulations. As expected, there were differences in ozone concentrations on Saturday and Sunday (July 29 and 30). The simulation showed lower ozone in the urban areas, but higher ozone in the downwind areas on Saturday and Sunday. However, by about 10 am on Monday (July 31), there are no differences between the two simulations. The simulations showed that even when on-road motor vehicle emissions for a weekday were substituted for a weekend day, there was virtually no effect on the weekday ozone concentrations.

Caltrans staff described an analysis of Weigh-In-Motion (WIM) data that they had conducted about two years ago to compare weekend and weekday traffic counts for heavy-duty vehicles (≥ 5 axles). Caltrans staff reviewed data for Southern California and the San Joaquin Valley. Staff's findings showed a drop of about 25% on weekend days in the San Joaquin Valley. Caltrans staff agreed to share their analysis with the group.

The group discussed the possibility of developing hourly profiles from the WIM data. In the development of the current on-road motor vehicle modeling emission inventories, data were used that were developed by Dr. Niemeier of UC Davis based on data gathered during the CCOS field study in 2000. Dr. Niemeier developed two hourly profiles, one for weekdays and one for weekend days. However, the hourly profiles made no distinction by vehicle type. The group decided to form a sub-committee to investigate how WIM data could be used to improve the modeling inventories. Caltrans staff volunteered to coordinate the sub-committee that would also include representatives from the BAAQMD, MTC and Alpine Geophysics.

3. Documentation of Modeling Emission Inventory

ARB reported that they have received two comments, both from staff at the BAAQMD. One set of comments was made by Amir Fanai and related to on-road motor vehicle emissions. At ARB's request, Jim Wilkinson of Alpine Geophysics responded to Mr. Fanai's questions. Mr. Fanai said that he was satisfied with the responses. ARB briefly described the questions and responses. ARB will distribute the questions and responses to the group. The emission inventory documentation and ITN report will be updated to reflect the questions and responses.

Phil Martien provided the second set of comments. At the meeting, ARB highlighted Mr. Martien's comments. ARB staff said that they plan to incorporate most of the comments into the emission inventory documentation. Mr. Martien suggested including a Methods Assessment section that evaluates the inventory showing strong points as well as where methods could be improved. ARB said that the purpose of the documentation is to specify how the gridded inventories were developed, not necessarily to evaluate the quality of the inventory. ARB will discuss whether or not the emission inventory documentation is the appropriate place to include such an evaluation.

ARB is continuing to expand the inventory documentation, which will include the comments made by BAAQMD staff. ARB will post a new version when substantial changes have been made. The group is still encouraged to provide comments in writing to Cheryl Taylor of ARB (cataylor@arb.ca.gov).

4. Attainment Modeling

The group discussed the availability of control factors from proposed control measures to use in attainment modeling runs. ARB has received control factor information from San Joaquin Valley staff for 2005, but is still waiting on information for 2010. SJVUAPCD staff said that they plan to provide the information soon. Sacramento Metro staff reported that they are working with the other districts in their nonattainment region to determine which control measures will be proposed. This needs to be decided before control factors can be calculated. Control factors are not yet available for the Bay Area.

5. Policy Issues: Wildfires

District staff reported that there had been no change with regards to the issue of how to address wildfires in future year modeling runs. The group agreed to drop this item from future agendas.

6. Update on Status of Gridded Inventory

ARB reported that revised modeling inventories for point and area sources are now available for the July/August 2000 episode. The latest modeling file names all contain "rf934" for ARB's Emission Inventory Branch reference # 934 and contain "V012004" or "V022104" for version dates. ARB described a spreadsheet sent to the group showing emission differences for NO_x and TOG by region between the July 2003 and January 2004 modeling inventories. A description of the main changes is listed on each spreadsheet. Based on an August weekday, the differences in NO_x emissions for the San Joaquin Valley, Bay Area and Sacramento Nonattainment region are -6 tpd, -12.9 tpd, and +2.4 tpd, respectively. Similarly, the differences in TOG emissions for the same regions are +15.6 tpd, +19.3 tpd, and +33.2 tpd, respectively. All other modeling files remain unchanged.

7. Other Issues

Sacramento Metro AQMD staff raised a concern about idling emissions from construction equipment. They have been looking at potential emissions reductions from local ordinances that would limit idling. ARB staff reported that idling emissions are included in the inventory. Emissions factors for diesel construction equipment in the OFFROAD model are based on a steady state 8-mode cycle, one of which is idling. Idling emissions are included in the inventory, but they cannot be reported separately right now. Sacramento Metro staff expressed concern that idling emissions in the OFFROAD model may be underestimated similar to idling emissions in the on-road inventory. SJVUAPCD staff also felt that idling emissions are underestimated, not only from construction equipment but also from other types of equipment such as agricultural/farm equipment. ARB staffs who handle the OFFROAD model will be asked to join the next call to discuss the districts' concerns. District staff would like to understand the basis for the ftp cycle used to develop the emission factors and to know if ARB plans to investigate this subject further. Additionally, Caltrans staff mentioned that there is a current study on off-road vehicles being conducted by Parks and Recreation; they will send more information to be distributed to the group.

8. Plans for Next Meeting

The next conference call is scheduled for Wednesday, February 25 at 10:00 a.m.

February 25, 2004

Attendees	Affiliation
Amir Fanai, Toch, Mangat, Phil Martien, Saffet Tanrikulu	Bay Area AQMD
Charles Anderson, Kristian Damkier, Bruce Katayama, Mike Neuenburg, Greg Tholen	Sacramento Metro AQMD
David Nunes, Stephen Shaw, Michelle Stanley	San Joaquin Valley Unified APCD
Vahid Nowshiravan, Leonard Seitz	Caltrans
Jim Wilkinson	Alpine Geophysics
Cari Anderson	Earth Matters
Archana Agrawal, Paul Allen, Vernon Hughes, Tess Sicat, Cheryl Taylor, Eugene Yang	ARB

1. Welcome and Feedback on February 11 Meeting

ARB welcomed everyone to the call. Introductions were made. The minutes were accepted as written.

2. Idling Emissions from Construction Equipment

Previously, Sacramento Metro AQMD staff raised a concern that idling emissions from construction equipment may be underestimated in the inventory. They are particularly concerned about extended idling, especially since many new types of construction equipment now include “creature comforts” such as air conditioning and radios. Sac Metro staff have been looking at potential emissions reductions from local ordinances that would limit idling. The group asked that ARB staff join this call to discuss the current emission estimation method in the OFFROAD model and any plans that ARB may have to investigate this subject further.

ARB staff reported that idling emissions are included in the inventory. Emission factors for diesel construction equipment in the OFFROAD model are based on a steady state 8-mode cycle, one of which is idling. Idling emissions are included in the inventory, but they cannot be reported separately right now. However, the weighting factor for idle in the 8-mode cycle is 15%. ARB recently put GPS data loggers on 4 pieces of construction equipment, none of which had “creature comforts.” Data have been collected, but not analyzed yet. Since this is a very small sample, it is unknown how representative the 15% weighting factor is of “real world” conditions. Sacramento Metro staff said that they had not collected any data on idling emissions from construction equipment. ARB has no plans at this time to change the OFFROAD model because there is not enough information available to warrant a change. No additional tests are planned in the near term. ARB staff is aware that the emissions from construction equipment are large (9% of total NO_x statewide in 2010) and would like to gather more information. The group encouraged ARB staff to do more testing. ARB staff will keep the group informed when new data become available.

BAAQMD staff asked for clarification of the revision to the growth factors for locomotives. At the last meeting, ARB described a spreadsheet that showed the emission differences for NO_x and TOG by region between the July 2003 and January 2004 modeling inventories. A description of the main changes was listed on each spreadsheet, one of which related to locomotives. ARB staff agreed to work with BAAQMD staff to explain the calculations.

3. Possible Uses of Weigh-In-Motion (WIM) Data

Caltrans staff described calculations that they had distributed to the group. At the request of South Coast AQMD staff, Caltrans staff had previously calculated an annual weekend/weekday heavy-duty truck volume ratio. They extracted the raw data (daily files by location) from the WIM server at the Caltrans Headquarters Traffic Operation’s office and calculated the weekend/weekday truck volume ratios by site. Only those WIM sites located either in the SCAB region or in the near vicinity were used. Variations in the weekend/weekday ratios were observed between locations and month.

The group discussed the possibility of developing hourly profiles from the WIM data. The current on-road motor vehicle modeling emission inventories used profiles that were developed by Dr. Debbie Niemeier of UC Davis. Dr. Niemeier developed two hourly profiles, one for weekdays and one for weekend days with no distinction by vehicle type. Caltrans Traffic Operations posts daily summaries by station and class on their website. However, hourly profiles cannot be developed from the summaries. Caltrans staff mentioned that it might be possible to ask Caltrans Traffic Operations staff to save the raw data from a few stations (5-10) if they were asked about three months ahead of time. The group formed a sub-committee to explore with Caltrans the gathering of WIM data this summer; Caltrans staff will set up a conference call soon. Caltrans staff volunteered to coordinate the sub-committee that would also include representatives from the BAAQMD, MTC, ARB and Alpine Geophysics. The URL

for Caltrans Division of Traffic Operations is: <http://www.dot.ca.gov/hq/traffops/>. Selecting Truck Services will select the Office of Truck Services within Caltrans.

ARB staff agreed to distribute 2001 statewide WIM data. ARB staff reminded the group that even though weekend adjustments can be made for on-road mobile sources, the spatial distribution is still based on weekday transportation models (e.g. people are still traveling to work; the emissions are just scaled down).

4. Comments on the Integrated Transportation Network (ITN) Report

ARB staff said that they have received no new comments on the ITN report. Caltrans staff mentioned that the new Caltrans statewide model has an improved coverage that is in Teale Albers. This new coverage is more compatible with the bulk of GIS data being used within State agencies. Caltrans will send specific comments on the ITN report to Alpine Geophysics.

5. Comments on the Draft Documentation of Modeling Emission Inventory

ARB staff said that they have received no new comments since the last call. As requested at the last meeting, ARB distributed the questions asked by Mr. Fanai, BAAQMD, and the responses made by Jim Wilkinson of Alpine Geophysics. The emission inventory documentation and the ITN report will be updated to reflect the questions and responses.

Phil Martien, BAAQMD, also provided comments that were discussed at the last call. ARB staff reported that they are incorporating most of the comments into the emission inventory documentation. ARB will post a new version when substantial changes have been made. The group is still encouraged to provide comments to Cheryl Taylor of ARB (cataylor@arb.ca.gov).

6. Attainment Modeling

The group discussed the availability of control factors from proposed control measures to use in attainment modeling runs. ARB staff has received control factor information from San Joaquin Valley staff for 2010. ARB and SJVUAPCD staffs are working to determine that emission reductions are as expected and occur in the correct emission inventory categories. Sacramento Metro staff reported that they are closer to agreement with the other districts in their nonattainment region to determine which control measures will be proposed. This needs to be decided before control factors can be calculated. Control factors are not available for the Bay Area at this time.

7. Update on Status of Gridded Inventory

ARB reported that revised modeling inventories for area sources (base year) are now available for the July/August 2000 episode. These revised inventories now include livestock waste emissions that were inadvertently dropped during processing. Ten new livestock waste categories were recently created that separate the emissions by animal type, such as dairy cattle, broiler chickens and swine. All other modeling files remain unchanged.

8. Other Issues

ARB mentioned that Alpine Geophysics recently provided a draft final report on contract 03-01CCOS to develop the September 2000 CCOS episode. Within the time and resource constraints of this project, Alpine Geophysics was unsuccessful in developing a SIP-quality ozone modeling episode satisfying EPA performance goals and established scientific practice. The final report focuses on the range of hypotheses tested and the diagnostic experiments performed to explore the model performance issues. The report suggests the conduct of a focused review of emissions inventory speciation assumptions. ARB will be providing written

comments on the draft final report. Alpine Geophysics' report can be found under the heading "Contract Status" at <ftp://ftp.arb.ca.gov/carbis/ptsd/ccaqstac/ccaqstac.htm>.

9. Plans for Next Meeting

The next conference call is scheduled for Wednesday, March 17 at 10:00 a.m.

March 17, 2004

Attendees	Affiliation
Amir Fanai, Toch, Mangat, Phil Martien	Bay Area AQMD
Charles Anderson, Bruce Katayama, Greg Tholen, Brigitte Tollstrup	Sacramento Metro AQMD
Donald Hunsaker, David Nunes, Stephen Shaw, Michelle Stanley	San Joaquin Valley Unified APCD
Vahid Nowshiravan, Leonard Seitz	Caltrans
Jim Wilkinson	Alpine Geophysics
Cari Anderson	Earth Matters
Archana Agrawal, Paul Allen, Vernon Hughes, Tess Sicat, Cheryl Taylor, Eugene Yang	ARB

1. Welcome and Feedback on February 25 Meeting

ARB welcomed everyone to the call. The minutes were accepted as written.

2. Weigh-In-Motion (WIM) Data

The group discussed the possibility of developing hourly profiles from WIM data. The current on-road motor vehicle modeling emission inventories used profiles that were developed using CCOS-specific travel activity data collected under contract by Dr. Debbie Niemeier of UC Davis. Dr. Niemeier developed two hourly profiles, one for weekdays and one for weekend days with no distinction by vehicle type. ARB staff mentioned that they have received 2001 statewide WIM data from Caltrans, which they agreed to distribute to the group. The group formed a sub-committee to explore the use of WIM data to develop new hourly profiles for both the light-duty and heavy-duty vehicles, perhaps by county or air basin. The sub-committee, which includes representatives from Caltrans, BAAQMD, MTC, ARB and Alpine Geophysics, agreed to meet on April 6.

BAAQMD staff mentioned that they are working on an analysis using the hourly profiles from EMFAC. They plan to swap the light-duty and heavy-duty hourly profiles to see how the peak emissions change. ARB staff will investigate the source of the hourly profiles in EMFAC.

3. Comments on the Integrated Transportation Network (ITN) Report

ARB staff said that they have received no new comments on the ITN report. ARB and Alpine Geophysics agreed that it is time to finalize the ITN report. ARB will compile the comments that have been received and send them to Alpine Geophysics to include in the final report.

ARB staff mentioned that the study agency is establishing a new contract with Alpine Geophysics to update the ITN, as approved by the CCAQS Policy Committee. The new contract will update available local transportation networks, including at a minimum the addition of the four northern counties in the San Joaquin Valley.

4. Comments on the Draft Documentation of Modeling Emission Inventory

ARB staff is revising the draft documentation of the modeling emission inventory. The next revision will reflect the comments already received. ARB staff will distribute the revised document before the next meeting.

5. Attainment Modeling

The group discussed the availability of control factors from proposed control measures to use in attainment modeling runs. ARB staff has received control factor information from San Joaquin Valley staff for 2010. ARB and SJVUAPCD staffs are working to determine that emission reductions are as expected and occur in the correct emission inventory categories. Control factors are not available for the Sacramento Nonattainment Region or the Bay Area at this time.

6. Update on Status of Gridded Inventory

ARB reported no changes to the modeling inventories.

7. Other Issues

BAAQMD staff reported that they are updating their district emission inventory files to reflect ARB's correction to growth factors for locomotives.

8. Plans for Next Meeting

The next conference call is scheduled for Wednesday, April 28 at 10:00 a.m.

April 28, 2004

Attendees	Affiliation
Amir Fanai, Toch, Mangat, Phil Martien	Bay Area AQMD
Charles Anderson, Bruce Katayama	Sacramento Metro AQMD
David Nunes, Stephen Shaw	San Joaquin Valley Unified APCD
Harold Brazil	MTC
Wayne Luney	Caltrans
Chris Emery	Environ
Paul Allen, Vernon Hughes, Tess Sicat, Cheryl Taylor, Bruce Tuter	ARB

1. Welcome and Feedback on March 17 Meeting

ARB welcomed everyone to the call. The minutes were accepted as written.

2. Weigh-In-Motion (WIM) Data

ARB staff summarized the WIM sub-committee conference call on April 6; minutes were distributed to the group. Members of the WIM sub-committee agreed to meet again on May 11 at 10:00. At that call, members will compile a list of questions to ask Caltrans. The purpose of the questions would be to gather more information about what kind of data the WIM stations can actually provide. In particular, the group is interested in how to relate WIM vehicle classes to EMFAC vehicle classes. Ultimately, the goal would be to develop separate hourly profiles for light-duty and heavy-duty vehicles from WIM data perhaps by county, air basin, or road name (e.g. I-5).

At the last meeting, BAAQMD staff mentioned that they were working on an analysis using the hourly profiles from EMFAC. They planned to swap the light-duty and heavy-duty hourly profiles to see how the peak emissions change. BAAQMD staff agreed to share the results of the analysis of this group. BAAQMD staff did provide their analysis to ARB staff. ARB staff asked to review the information before sharing it with the group.

3. Comments on the Draft Documentation of Modeling Emission Inventory

ARB staff has revised the draft documentation of the modeling emission inventory. The document was distributed to the group. The revision reflects most of the comments received previously. ARB staff described the major changes made from the December 17, 2003 version. ARB staff asked for written comments to be provided by May 21.

ARB staff mentioned that this report specifically documents the modeling emission inventories developed for use in photochemical models to prepare the 1-hour ozone SIPs. When completed, emission summaries and the names of modeling files will reflect what was used for SIP development. This document will complete inventory work for the 1-hour ozone SIPs.

ARB staff suggested that the focus of the SIP Gridded Inventory Coordination Group change to long-term improvements to the inventory that will benefit upcoming 8-hour ozone and PM₁₀/PM_{2.5} SIPs.

4. Update on Status of Gridded Inventory

ARB reported no changes to the modeling inventories. This item will be dropped from future agendas until there is something new to report.

Environ staff mentioned that Alpine Geophysics (AG) staff are updating the July/August 2000 inventories to correct problems discovered in the emissions processing. These issues were corrected internally by ARB. AG will also be updating the July 1999 inventories. They will also substitute the speciation profiles from VISTA in place of ARB's profiles to see if there is any impact on model outputs.

5. Other Issues

No other issues were discussed.

6. Plans for Next Meeting

The next conference call will be scheduled by ARB staff after the May 21 comments have been received.

February 3, 2005

Attendees	Affiliation
Amir Fanai, Toch, Mangat, Phil Martien, Saffet Tanrikulu	Bay Area AQMD
Charles Anderson, Bruce Katayama, Hao Quinn, Brigitte Tollstrup	Sacramento Metro AQMD
Hector Guiero, Elena Nuño	San Joaquin Valley Unified APCD
Sam Longmire	Northern Sierra AQMD
Yu Shuo Chang, Dave Vince	Placer County APCD
Paul Hensleigh	Yolo/Solano AQMD
Harold Brazil	MTC
Leonard Seitz	Caltrans
Carol Bohenkamp	EPA
Michael Benjamin, Gary Honcoop, Vernon Hughes, Larry Hunsaker, Doug Ito, Martin Johnson, Kurt Karperos, Cheryl Taylor, Doug Thompson, Bruce Tuter	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Purpose of the SIP GICG

Cheryl briefly described the purpose of the SIP Gridded Inventory Coordination Group (GICG). The main purpose of the group is to provide the opportunity and means for interested parties, such as staff from districts, ARB, regional planning organizations (RPOs), and their consultants, to review gridded inventories to be used in SIP modeling.

A similar process was used during modeling for the 1 hour SIP, which provided several benefits. First, the more people who review the inventories, the more likely they will spot problems quickly. Also, more reviewers can also share the burden of reviewing such large amounts of information. Another benefit is that the districts have specific knowledge about the inventories in their regions, so they are more likely to discover problems. Lastly, the group provided a forum to discuss desired inventory improvements and concerns.

3. Modeling Schedule/Frequency of Calls

ARB will be making model runs for the placeholder modeling, with expected completion by the end of summer. Placeholder modeling will use inventory inputs that were previously developed for 1-hour SIP modeling coupled with adjustment factors to best characterize inventory changes that have occurred since then. Late this summer, ARB anticipates developing revised gridded inventories for point and area sources that will be based on the 2002 base year inventory. In order to meet that deadline, ARB is asking for district submittals of revised inventory information by March 31. Growth and control changes are requested by May 1. On-road motor vehicle inventories will be developed using EMFAC2005.

Cheryl mentioned that the frequency of calls would be scheduled as needed, probably on the order of every two to four weeks.

4. Process to Create a Gridded Inventory

Cheryl told the group that ARB would be sending out a brief overview of how gridded inventories are developed. The intent is to provide information to those who are new to this process. Cheryl described the general process for developing modeling inventories for each of the four types of sources: point sources, area sources, on-road motor vehicles and biogenics.

5. Modeling Inventory Q/A Flow Diagram

Cheryl mentioned that ARB would be sending out a Q/A flow diagram. This diagram shows the flow of point and area source inventory data from the districts to ARB, the subsequent use of the data, information that is developed from them (e.g. reports and modeling inventories) and where Q/A happens in the process.

Michael Benjamin and Martin Johnson (Emission Inventory Branch, ARB) described the where QA occurs and what kind of QA is done. For QA of the base year, many types of checks occur. The facility locations checked for missing coordinates. For those facilities that do have coordinates reported, a comparison is done with geocoded coordinates based on address. Area sources are checked for completeness. Additionally, temporal data, SIC/SCC assignments, and the variability between years are checked. For future year QA, growth and control are checked. "Growth only" scenarios are run to check the forecasts for reasonableness. Control rule factors provided by the districts are evaluated at the SIC/SCC level. The projections using both growth and control and reviewed for reasonableness.

There are several web pages available for review of these various data. The almanac website contains considerable information and can be found at: <http://www.arb.ca.gov/aqd/almanac/almanac.htm>. The Almanac contains 20-year trend summaries of air quality and emissions data for five criteria pollutants: ozone, PM10, CO, NO2, and SO2. Another useful website is the SIP baseline emission inventory projections. The site was prepared to assist ARB and district staff in the timely retrieval of emissions inventory information to aid in the 1-hour ozone SIP development process for the CCOS domain. The page provides report generators on various point and area source inventories generated for modeling. The site also contains documentation of changes in different versions of the inventory. The URL is: <http://www.arb.ca.gov/app/emsinv/ccos/index.php>. A similar website is being developed to aid staff in the 8-hour ozone SIP process.

6. Method to Develop Placeholder Episode Emissions

Placeholder modeling will use inventory inputs that were previously developed for 1-hour SIP modeling coupled with adjustment factors to best characterize inventory changes that have occurred since then. For point and area sources, the emissions will use the CEFS runs developed in January 2004 (RF#934). On-road motor vehicles are based on EMFAC2002 v2.02. Biogenics have remained unchanged since September 2003. Future year modeling inventories have been developed for 2007, 2012 and 2018. ARB will be making gross adjustments to the on-road and off-road inventories to reflect the approximate changes in EMFAC and the OFFROAD models. The 1999 and 2000 base years will be recreated to account for the changes as well. Inventories will be ready for review in the next two to three weeks. Members of the group asked to review the modeling inventories both before and after the gross adjustments are made.

7. QA/QC Process

Phil described the proposal for tracking and reporting of modeling emissions inventories. Staff from the BAAQMD and ARB has been discussing ways to improve the tracking and reporting of modeling inventories. During the previous 1-hour ozone SIP process, many modeling inventories, emissions summaries and plots were made available for review. A log file was maintained that described changes. As time went on, it became difficult to maintain descriptive logs, logical file structures and up-to-date summaries and plots. It became confusing for staff to determine which was the latest information.

Staff's proposal includes three parts. The first part is to standardize file names and directory structures. The second part is to develop methods to automate the tracking and reporting of modeling inventories. This would involve logging in information about each new modeling file that becomes available, including an option to look up "current" files. Emissions summaries and plots would be generated automatically. The third part is to improve the accessibility of files, summaries and graphics via standard web browsers. More information will be provided to the group when it is available.

8. Suggested ARB/District Responsibilities

Cheryl made suggestions for ARB and district staff responsibilities related to reviewing modeling inventories. Suggested ARB staff's responsibilities include maintaining the base year and future year databases (CEIDARS and CEFS). ARB staff would be responsible for posting modeling files and reports/plots to the appropriate websites and ftp sites. District staff is responsible for providing point source, growth and control data, including QA. If resources are available, district staff is encouraged to review CEFS reports, gridded summaries and tile plots. District staff is requested to provide comments to ARB staff within 2 weeks of notification. Members of the group made no comments.

9. Website and FTP Site

Information on existing websites is described in Item 5, above. More details on websites and ftp sites will be provided, as information becomes available.

10. Contact List

Vernon asked each district if they could provide a single person to contact when information is available for review. The following staff volunteered:

Sam Longmire, Northern Sierra

Paul Hensleigh, Yolo/Solano

Yu Shuo Chang, Placer

Elena Nuño, SJV

Hao Quinn, Sac Metro

Phil Martien, Bay Area

Leonard Seitz, Caltrans

11. Plans for Next Meeting

The next conference call will be scheduled when the summaries and tile plots for the placeholder gridded inventories are available for review.

March 16, 2005

Attendees	Affiliation
Christina Archer, Amir Fanai, Toch, Mangat, Phil Martien, Cuong Tran	Bay Area AQMD
Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, Debbie Johnson, David Nunes, Elena Nuño, Stephen Shaw	San Joaquin Valley Unified APCD
Cari Anderson	CA Consulting
Chris Emery	Environ
Paul Allen, Vernon Hughes, Martin Johnson, Anne Lin, John Nguyen, Cheryl Taylor, Bruce Tuter	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of February 3 Meeting Highlights

The meeting highlights were approved as written.

3. Review of Placeholder Episode Emissions

Schedule

ARB will be making model runs for the placeholder modeling, with expected completion by the end of summer. Placeholder modeling will use inventory inputs that were previously developed for 1-hour SIP modeling coupled with adjustment factors to best characterize inventory changes that have occurred since then. Late this summer, ARB anticipates developing revised gridded inventories for point and area sources that will be based on the 2002 base year inventory. In order to meet that deadline, ARB is asking for district submittals of revised inventory information by March 31. Growth and control changes are requested by May 1. On-road motor vehicle inventories will be developed using EMFAC2005.

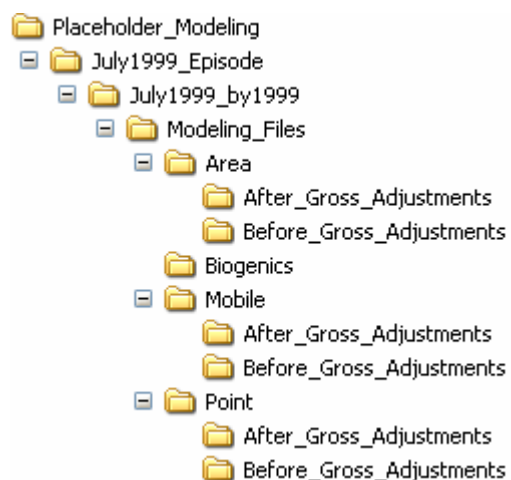
What's Available and How to Access Information

Cheryl reviewed the draft document "Accessing and Reviewing Placeholder Modeling Files and Reports". Modeling files and reports can be accessed through a web browser (<ftp://orthus.arb.ca.gov/pub/>) or directly to ARB's ftp site (Host Name: orthus.arb.ca.gov; User ID: ftp; Password: leave blank or put in anything). There are two main subdirectories that contain data for both the July 1999 episode and the July/August 2000 episode. There are four years available for each episode – the base year (either 1999 or 2000) and 2007, 2012 and 2018. For each year and episode, there are model-ready files and three types of reports: EIC, speciation and tile plots. The document discusses the reports in detail. Currently, all of the reports are for the inventories before any gross inventory adjustments have been applied.

ARB is preparing modeling files that will incorporate gross inventory adjustments. These adjustments will be applied to all years (1999, 2000, 2007, 2012 and 2018) for both episodes by pollutant (ROG and NOx) by region (SJV, SNA and SF). There are individual factors for on-road, off-road, stationary and area-wide that will be generally applied equally to all sources within each category. There are two exceptions. First, a separate factor will be applied to NOx from locomotives in the SJV and SNA; a different factor will be applied to the remaining off-road NOx sources. Second, NOx from ships in SF will be handled in the same manner as locomotives.

ARB estimated the gross adjustments to the on-road and off-road inventories to reflect the expected changes in the next versions of the EMFAC and OFFROAD models. The local districts provided stationary and area-wide adjustments.

ARB recently posted the modeling files for the 1999 base year of the July 1999 episode after the gross adjustments were applied. The files can be found on the ftp site under /pub/outgoing/shareddata/Placeholder_Modeling/ as shown in the directory structure below. At the last meeting, members of the group asked to review the modeling inventories both before and after the gross adjustments are made. The CAMx model-ready files are available for both before and after the gross adjustments for area, mobile and point sources. Additionally, ARB will mail a hard copy report to the appointed contact person at each district participating in this group. The report sums the emissions and shows the percent change before and after the gross adjustments have been applied.



District staff made suggestions for improving the review of the reports. Staff asked if blanks could be removed from all directory names; ARB will make this change. ARB will develop a log

file to track the posting of names and dates until the procedure can be handled automatically. District staff asked if the EIC reports could be put into Excel rather than the current SAS output; ARB will investigate this.

Timely Feedback to ARB

To aid everyone in keeping track of what information is currently available for review/use on the ftp site, ARB will post a log showing what was posted and when. When new information is available (modeling files or reports), ARB will send out an email notifying the appointed district contacts. The district contacts can then notify the appropriate staff at their district. District staffs are asked to review the information within two weeks and notify ARB of any concerns. ARB suggested developing a matrix of reports and names of staff who had reviewed the reports. This matrix would be sent out periodically to ensure that the inventory information has been reviewed.

4. Plans for Next Meeting

The next meeting is scheduled for Wednesday, March 30 from 10 to 11:30 am.

5. Other Discussion

BAAQMD and ARB staff discussed the incorporation of the latest growth and control information provided by the BAAQMD in January 2005. They will continue working cooperatively to include this new data and review the results for accuracy.

April 5, 2005

Attendees	Affiliation
Phil Martien	Bay Area AQMD
Charles Anderson, Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, Debbie Johnson, David Nunes, Elena Nuño	San Joaquin Valley Unified APCD
Harold Brazil	MTC
Charles Chenu, Leonard Seitz	Caltrans Headquarters
Chris Emery	Environ
Michael Benjamin, Vernon Hughes, Anne Lin, Tess Sicat, Cheryl Taylor	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of March 16 Meeting Highlights

The meeting highlights were approved as written.

3. Review of Placeholder Episode Emissions

What's Available

ARB will be making model runs for the placeholder modeling, with expected completion by the end of summer. Placeholder modeling will use inventory inputs that were previously developed for 1-hour SIP modeling coupled with adjustment factors to best characterize inventory changes that have occurred since then. Late this summer, ARB anticipates developing revised gridded inventories for point and area sources that will be based on the 2002 base year inventory.

ARB was asked to provide the status of emission inventory updates. ARB had requested that the districts provide point and area source updates for the 2002 base year by March 31. Updates supplied by that time were guaranteed to be included in the inventory that will be used

for final SIP modeling. Many districts have submitted 2002 updates as well as growth and control information. ARB agreed to provide to the group for the next meeting a list of which districts have provided updates. ARB plans to begin forecasting from the 2002 database in early June; it will be difficult to incorporate any updates after that time.

ARB has posted modeling files and reports for the inventories before any gross inventory adjustments have been applied. ARB has also posted modeling files that incorporate gross inventory adjustments. These adjustments were applied to all years (1999, 2000, 2007, 2012 and 2018) for both episodes (July 1999 and July/August 2000) by pollutant (ROG and NOx) by region (SJV, SNA and SF).

ARB estimated the gross adjustments to the on-road and off-road inventories to reflect the expected changes in the next versions of the EMFAC and OFFROAD models. The local districts provided stationary and area-wide adjustments.

ARB was asked to explain how the gross adjustments were applied to locomotives for the placeholder modeling. The gross adjustment factor for locomotives (1.40) was applied to NOx emissions with an EIC that began with 820 for all counties in the Sacramento Nonattainment Area. All other off-road categories (beginning with EIC of 8) were assigned a factor of 1.06. Spreadsheets containing the gross adjustment factors and the emission category to which they were applied will soon be available for download from ARB's ftp site for each year, region and pollutant. ARB has recently released a memo describing the changes that are planned for locomotive emissions in the OFFROAD model. The memo can be found at: http://www.arb.ca.gov/msei/on-road/downloads/docs/Locomotive_Memo.doc. More information on changes to EMFAC and OFFROAD at their upcoming release can be found at: <http://www.arb.ca.gov/msei/msei.htm>.

Additionally, ARB will soon be posting "before and after" reports. These reports show emissions before and after the gross adjustments were applied and the percent change by air basin, pollutant, emission category and county. District staff can review the reports to check emission totals and determine that gross adjustments were applied correctly.

How to Access Information

District staff reported that they have been successful in downloading files from ARB's ftp site. The site can be accessed with the following information:

Host Name: orthus.arb.ca.gov

User ID: ftp

Password: put in your email address.

Information can be found on the ftp site under /pub/outgoing/shareddata. Modeling files and reports are located under "Placeholder_Modeling". The gross adjustment factors will be under "Gross_Adjustment_Factors." There is also a log file ("Log_File_Current Date.xls") that describes what information has been posted to or removed from the ftp site. ARB and BAAQMD staffs are developing an automated way of keeping track of ftp site activity; the log file will serve that function until the automated method is completed.

Comments on Modeling Inventory Currently Available

At previous meetings, members of the group were asked to review available modeling inventories and reports. ARB asked districts to review the inventories and provide comments next week to the group. BAAQMD staff mentioned that they see less VOC in the latest

modeling files for the July 1999 episode (1999 base year) than in previous runs. ARB is investigating this concern.

District staff made suggestions for improving the review of the reports. Staff asked if blanks could be removed from all directory names; ARB has made this change. District staff asked if the EIC reports could be put into Excel rather than the current SAS output; ARB is investigating this. District staff suggested that the ranges in the tile plots be improved. It can be very time consuming to play with ranges in plots. ARB will look into posting files that can be read into PAVE so those reviewers can choose their own ranges or focus on individual categories. ARB will also post tile plots of mobile sources.

4. Plans for Next Meeting

The next meeting is scheduled for Tuesday, April 26 from 10 to 11:30 am.

5. Other Discussion

ARB was asked if emissions from Nevada have been considered for inclusion in the modeling inventories. Perhaps emissions from the National Emission Inventory (NEI) or the Western Regional Air Partnership (WRAP) could be used. ARB will investigate and report back on what could be done to "fill in" Nevada.

April 26, 2005

Attendees	Affiliation
Amir Fanai, Toch Mangat, Phil Martien, Cuong Tran	Bay Area AQMD
Charles Anderson, Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, David Nunes, Elena Nuño	San Joaquin Valley Unified APCD
Paul Hensleigh	Yolo-Solano AQMD
Harold Brazil	MTC
Jim Wilkinson	Alpine Geophysics
Michael Benjamin, Vernon Hughes, Anne Lin, Cheryl Taylor, Bruce Tuter	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of April 5 Meeting Highlights

The meeting highlights were approved as written.

3. Status of District Point and Area Source Updates for 2002

As requested by the group at the previous call, Michael Benjamin gave the status of district point and area source updates for the 2002 inventory. Most districts originally submitted their point and area source inventories about 18 months ago. Since the 2002 CEIDARS inventory will be the basis for modeling inventories for the 8-hour ozone SIPs, additional QA was requested from the districts.

On September 15, 2004, ARB presented information at an EITAC (Emission Inventory Technical Advisory Committee) meeting to aid the districts in their QA efforts. Data provided at the meeting can be downloaded at <http://www.arb.ca.gov/ei/district/eitac2004.htm>. ARB requested that district staff review: 1) point and area source criteria emissions, 2) facility locations, 3) temporal assignments, and 4) growth surrogates and control factors.

Michael reviewed a table that was distributed to the group showing the status of each of the four QA areas by district. In general, the larger districts performed QA checks more than smaller districts. Several districts reviewed their emission estimates and facility locations. Few districts reviewed temporal data, growth surrogates or control factors. Collectively, more QA was performed than in previous inventories, but not as much as ARB had hoped. Districts were asked to notify Michael if the table was not correct. For facility locations that are missing or highly suspect, ARB is considering using default locations developed through geocoding using GIS. ARB is also considering using default temporal data of 8 hr/day for point sources when temporal data are incomplete.

ARB wants the best inventory possible for the SIPs. Changes to temporal, growth and control data are requested by May 1, but ARB is willing to work with districts as much as possible to make revisions to the 2002 inventory.

4. Review of Placeholder Episode Emissions

What's Available

ARB gave the status of information that has been posted on the Orthus ftp site since the April 5 meeting. The next four items describe what has been posted.

1) ARB posted the gross adjustment factors. Placeholder modeling is using inventory inputs that were previously developed for 1-hour SIP modeling coupled with gross adjustment factors. These adjustments were applied to all years (1999, 2000, 2007, 2012 and 2018) for both episodes (July 1999 and July/August 2000) by pollutant (ROG and NOx) by region (SJV, SNA and SF). ARB estimated the gross adjustments to the on-road and off-road inventories to reflect the expected changes in the next versions of the EMFAC and OFFROAD models. The local districts provided stationary and area-wide adjustments.

2) ARB posted modeling files that incorporated gross inventory adjustments for 2018 for both episodes.

3) ARB reposted modeling files that incorporated gross inventory adjustments for 2012 for both episodes. The files corrected an error in the header record so that CAMx could read the files.

4) ARB reposted modeling files for area sources that incorporated gross inventory adjustments for 1999, 2007 and 2012 for the July 1999 episode. Point, mobile and biogenics files were unchanged. The area source files were rerun to correct a problem that was found. During processing of the July 1999 episode earlier this year (based on inventory reference #907), the cross-reference file (created for inventory reference #934) was used. Some codes were inadvertently left out causing some emissions to be dropped. Because of this problem, area source modeling files and reports posted as "before gross adjustments" are incorrect due to missing emissions.

Additionally, ARB will be posting more information by the end of the week, described in the following two items.

1) ARB will repost modeling files for area sources that incorporate gross inventory adjustments for 2018 for the July 1999 episode to correct the problem mentioned in item 4 above.

2) ARB will post reports for all years for the July 1999 episode to ensure that the latest versions are available. Speciation reports for the "after gross adjustments" will be posted along with

“before and after” reports. The “before and after” reports show emissions before and after the gross adjustments were applied and the percent change by air basin, pollutant, emission category and county.

Comments on Modeling Inventories Currently Available

At previous meetings, members of the group were asked to review available modeling inventories and reports. ARB received several comments/questions from Sacramento Metro AQMD. ARB responded in an email to questions about how to interpret the EIC reports. Since similar questions may arise from other district staff, following are two questions from Sac Metro staff and ARB’s responses.

1) One question referred to on-road NO_x emissions. Sac Metro staff said that they summarized the gridded inventory by area, point and on-road for each model day along with CEFS 2000 summer planning inventory (1999 base year forecast) for comparison. The data look reasonable except for ON-ROAD NO_x which seem low relative to the other pollutants for weekend days. ARB responded that NO_x emissions look low because ARB applies a NO_x correction factor for heavy-duty diesels on weekends that reflects a fairly significant drop from weekday levels.

2) Sac Metro staff wondered about the EIC reports for agricultural burning. First, why is DROPPED_CEFS much larger than BASE_CEFS and second, if there is no ag burn activity on the episodic days, why are there gridded emissions on those days? ARB investigated their questions. The EIC report does indeed show that the emissions being dropped are bigger than the original amount. This is an error in the report. For this category, the BASE_CEFS emissions were underreported. The emissions that are reported as being dropped during processing are correct. Per instructions from the district, the emissions from weed abatement and ag burning from prunings and field crops were replaced with day-specific data. For the days in the July/August 2000 episode, no ag burning happened to occur. The emissions reported in the gridded output in the waste burning category related to non-ag open burning that were not replaced by day-specific data. So even though part of the report is incorrect, the good news is that the correct amount did go into the modeling inventory.

Sac Metro staff asked how their new source, Consumnes power plant, will be incorporated into the modeling inventory. The power plant is scheduled to begin operation in 2006. ARB’s Emission Inventory staff has the emission estimates. ARB Modeling staff will include the emissions as external adjustments (added to the inventory) for the 2007, 2012 and 2018 modeling inventories. ARB will let Sac Metro staff know when the emissions have been included.

Sac Metro staff asked how rice straw burning ERCs will be handled in the modeling inventories. ARB responded that the process has not yet been decided, but the subject would be discussed at the June 2 Northern California SIP/Transport meeting. Sac Metro staff wants ERCs to be included in the modeling.

ARB asked other district staff who has not provided comments to review the inventories and provide comments within the next two weeks to the group. ARB would like to respond to comments before the June 2 meeting.

BAAQMD staff mentioned previously that they see less VOC in the latest modeling files for the July 1999 episode (1999 base year) than in previous runs. ARB reported that their emissions

comparison matched well between the July 1999 modeling files and the outputs from CEFS (reference #907).

4. Plans for Next Meeting

The next meeting is scheduled for Tuesday, May 17 from 10 to 11:30 am.

5. Other Discussion

ARB was asked if emissions from Nevada have been considered for inclusion in the modeling inventories. Data from the Western Regional Air Partnership (WRAP) appears to be the only readily available source. ARB may incorporate data for Nevada for the final modeling.

May 17, 2005

Attendees	Affiliation
Toch Mangat, Phil Martien, Cuong Tran	Bay Area AQMD
Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, David Nunes, Elena Nuño	San Joaquin Valley Unified APCD
Leonard Seitz	Caltrans Headquarters
Jim Wilkinson	Alpine Geophysics
Chris Emery	Environ
Michael Benjamin, Vernon Hughes, Kyriacos Kyriacou, Anne Lin, Cheryl Taylor	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of April 26 Meeting Highlights

The meeting highlights were approved as written.

3. Review of Placeholder Episode Emissions

What's Available

ARB reported that all modeling files after gross adjustments for the placeholder modeling are available on ARB's Orthus ftp site. There are files for the July 1999 episode (base year 1999 and future years of 2007, 2012 and 2018) and the July/August 2000 episode (base year 2000 and future years of 2007, 2012 and 2018). Since the last call, ARB posted two items. First, the modeling files for area sources that incorporate gross inventory adjustments for 2018 for the July 1999 episode were reposted to correct the cross-reference problem described in the April 26 minutes. Second, ARB posted reports for all years for the July 1999 episode to ensure that the latest versions were available. Speciation reports for the "after gross adjustments" were posted along with "before and after" reports. The "before and after" reports show emissions before and after the gross adjustments were applied and the percent change by air basin, pollutant, emission category and county.

Comments on Modeling Inventories Currently Available

ARB opened the floor for comments and questions on the gridded inventories and reports. BAAQMD staff asked about documentation for the gross adjustments made to ships and locomotives. ARB mentioned the documentation available from the March 2005 inventory workshop describing the proposed changes to the next versions of EMFAC and OFFROAD models. The link for the Mobile Source Emission Inventory webpage is:

<http://www.arb.ca.gov/msei/msei.htm>. The link to the locomotive memo is:
http://www.arb.ca.gov/msei/on-road/downloads/docs/Locomotive_Memo.doc

BAAQMD staff asked if the commercial shipping day-specific information was included in the placeholder modeling for the July 1999 and July/August 2000 episodes. At the BAAQMD's request, Professor Bob Bornstein (San Jose State University) developed factors that scaled to daily amounts the shipping emissions based on the annual average inventory in CEIDARS for ships. Alpine Geophysics staff confirmed that they used the factors from Professor Bornstein to produce modeling inventories that included day-specific emissions for ships. ARB will check to see that the inventories produced by ARB contained day-specific shipping. [ARB has verified that day-specific shipping emissions are included in the modeling inventories for both episodes.]

An update to the marine vessel inventory that will use one consistent method statewide is being considered. The topic will be discussed at the next EITAC meeting on May 19. ARB is hoping to get agreement by the districts on a methodology and include these emissions in the final SIP modeling inventories. It would then need to be decided if the day-specific factors developed by Professor Bornstein should be used. Alpine Geophysics staff offered to provide the factors to ARB. [ARB has now received the day-specific shipping factors from Alpine.]

SJVUAPCD staff noted some problems with the EIC reports. They will follow up with an email providing the details. The EIC reports have some problems with the cross-reference files needed to assign emissions by EIC. ARB is working on generating similar reports that will replace the EIC reports. For the placeholder modeling, the "before and after" will replace the EIC reports. These reports show emissions by air basin, pollutant, emission category and county. The emission category is the EIC1 level (first digit of the EIC code), which sums emissions into 10 categories (e.g. fuel combustion, solvent evaporation and other mobile sources).

The group discussed the question of whether agricultural burning emissions should be included in future year inventories for SIP modeling. Unlike wildfires, the districts regulate agricultural burns. On bad air quality days in the future, the districts are not likely to allow burning.

ARB was asked how future year modeling inventories are developed. Emissions are forecasted using CEFS, ARB's forecasting system. Then emissions are disaggregated and speciated. ARB does not develop forecasted modeling inventories by applying growth and control factors to day-specific base year inventories.

BAAQMD staff compared the July 1999 modeling inventories recently developed by ARB (rf#907) with the inventories developed for the BAAQMD by Alpine Geophysics. The temporal profiles look different for area sources. They noted that the temporal distribution looks more realistic in the ARB #907 version, but the files developed by Alpine Geophysics had higher NOx emissions.

Caltrans staff provided a few comments on the draft report on the development of the ITN version 2. He will provide comments directly to Alpine Geophysics.

District staff was asked to provide comments/questions on their reviews of the placeholder modeling inventories by May 27.

4. Plans for Next Meeting

The next meeting is scheduled for Tuesday, June 14 from 10 to 11:00 am.

June 14, 2005

Attendees	Affiliation
Amir Fanai, Phil Martien, Cuong Tran	Bay Area AQMD
Charles Anderson, Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, Jessi Hafer, David Nunes, Elena Nuño	San Joaquin Valley Unified APCD
Leonard Seitz	Caltrans Headquarters
Jim Wilkinson	Alpine Geophysics
Michael Benjamin, Andy Delao, Anne Lin, Cheryl Taylor	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of May 17 Meeting Highlights

The meeting highlights were approved as written. [Cheryl later noticed that the meeting highlights should have been for April 26, not May 17.] As a follow up from the last meeting, Cheryl mentioned two items from the minutes. First, ARB has verified that day-specific shipping emissions are included in the placeholder modeling inventories for both the July 1999 and July/August 2000 episodes. Second, an update is being considered to the marine vessel inventory that will use one consistent method statewide. ARB is hoping to get agreement by the districts on a methodology and include these emissions in the final SIP modeling inventories. If the update does occur, it would need to be decided whether the day-specific factors developed by Professor Bornstein should be used to develop day-specific shipping emissions based on the new marine vessel inventory.

3. Review of Placeholder Episode Emissions

What's Available

ARB reported that there have been no new postings to the ftp site since the May 17 call.

ARB is working on several new reports:

- One report will be very similar to the “before and after” reports. These reports sum gridded, hourly emissions by air basin, pollutant, EIC1 and county for area, point and on-road mobile sources. The EIC1 refers to the first digit of the EIC. These broad categories are: 0 – Fuel Combustion, 1 – Waste Disposal, 2 – Cleaning and Surface Coatings, 3 – Petroleum Production and Marketing, 4 – Industrial Processes, 5 – Solvent Evaporation, 6 – Miscellaneous Processes, 7 – On-road Mobile, and 8 – Other Mobile. ARB suggests that the “before and after” reports be used for checking the gridded, hourly emissions to be used in the placeholder modeling instead of the EIC reports. The EIC reports list information by the EIC3 (the first 3 digits of the EIC) rather than the EIC1 level; otherwise the reports describe the same emissions. As noted previously, there have been some problems with the EIC reports due to cross-reference problems. As a result, ARB proposes to use the EIC1 level for reporting until correct emissions can be displayed at the EIC3 level. As a reminder, the cross-reference problems only affect the reporting of emissions, not the quality of the placeholder gridded inventory.
- ARB is developing a report that will show the incorporation of day-specific data. The emissions will be displayed at the EIC1 level.
- ARB is developing a report that will compare emissions before and after spatial and temporal adjustments are made in EMS-95 to ensure that no emissions are dropped during processing. The emissions will be displayed at the EIC1 level.
- ARB is working toward producing EIC3 level reports for each of the three reports described above for use in checking the final modeling inventory.

SJVUAPCD staff suggested that reports continue to be posted as both text and csv files; csv files can be brought into Excel and viewed in a wide variety of ways. Staff also mentioned that reports at the EIC3 level are valuable and encouraged ARB to produce reports at that level as soon as possible.

Comments on Modeling Inventories Currently Available

ARB mentioned that they had received comments/questions on the placeholder modeling inventories from Sacramento Metro and San Joaquin Valley district staff. ARB has responded to the questions asked by Sac Metro. Comments provided by San Joaquin Valley staff were about concerns with the EIC3 reports and have been discussed at this and previous meetings. Sac Metro staff asked how we will resolve the differences between the modeling inventories for the July 1999 and July/August 2000 episodes since they are based on two different versions of the inventory (CEIDARS). ARB responded that the inventories would be used as is in the placeholder photochemical modeling. The final modeling inventories will be consistent since they will be developed from the new 2002 CEIDARS inventory. For the final inventory the 1999 and 2000 base years for modeling will be backcast from 2002 for point and area sources. In addition, the final modeling inventories will be based on new versions of EMFAC and OFFROAD.

BAAQMD staff asked if ARB is planning to produce a 1990 inventory. Would members of the group want to go back and revisit the 1990 episode? ARB will look into it. [Note: One difficult part about revisiting the 1990 episode is comparing the original 1990 inventory with current versions of a 1990 inventory. This is because the original 1990 inventory was produced using the old categorization scheme. When CEIDARS was developed, the categorization scheme was revamped to more accurately display emissions. In the original categorization, emissions were reported as either stationary or mobile sources. The revised categorization created two new broad groupings called "Natural Sources" and "Area-wide Sources". Area-wide sources separated those stationary source emissions that weren't associated with a particular location, such as pesticides and architectural coatings. These sources were separated out to draw attention to the large quantity of emissions, particularly TOG, from these categories. Most people associated "Stationary Sources" with facilities such as power plants and refineries and didn't realize the very different types of control strategies needed between stationary and area-wide sources. The problem for us now in comparing emissions between the old and new (current) categorization schemes is that it's very difficult to tell whether a change in emissions is due to a change in emission estimation methodology or simply that those emissions are categorized in a different place. Revisiting the 1990 modeling episode almost becomes an exercise in futility since it's very difficult to understand the changes in the inventory.]

BAAQMD staff mentioned that they had discovered an error in the biogenics inventory developed for the July 1999 episode. Due to a coding error, too much OVOC (other VOC) were included. A new biogenics inventory is being generated.

Leonard Seitz of Caltrans mentioned that he had received truck data from Joe Avis (Caltrans). He has travel data from 137 piezo counters for 15 vehicle classes. The travel data are by date and hour. Leonard will forward the data to ARB after his review is complete. It may be possible to develop new weekend/weekday ratios for northern California that would replace the ratios currently used that were developed from southern California WIM station data.

4. Other Issues

At the suggestion of San Joaquin Valley district staff, a new item will be added to the agenda for future calls. The agenda item will be “PM Inventory Development.” Staff from the other districts agreed that keeping abreast of issues related to PM inventory development would be valuable. At the next call, ARB will give a status report of current PM inventory developments.

ARB reminded everyone that one of the main purposes of the SIP Gridded Inventory Coordination Group is to allow participants a venue for raising issues of concern about the inventory. Members of the group can provide input and comments that can lead to corrections and/or improvements in the inventory or explanations that the inventory is ok prior to alarming policy makers of what may turn out to be a non-issue. Unfortunately, raising too quickly what is eventually determined to be a non-issue can waste a lot of time and potentially affect the credibility of those involved.

Alpine Geophysics staff described a CCOS inventory analysis that they are conducting on behalf of the BAAQMD. One part of the analysis, which was distributed to the group, is a comparison of intra-California emissions to determine if the inventory is consistent among like counties within the state. They are also planning to compare California’s inventory with a national inventory as well as the inventory developed by VISTAS. VISTAS (Visibility Improvement – State and Tribal Association of the Southeast) is a collaborative effort of the ten southeastern states and eligible tribes to conduct technical analyses and planning activities addressing regional haze and related air quality issues. In conducting these analyses, Alpine Geophysics is looking for possible ways to create a better inventory in California. On the intra-California comparison, ARB expressed concern about some of the source categories analyzed. Four of the categories (fuel combustion, petroleum extraction, solvent use and waste disposal) analyzed only area sources. These four categories have emissions in both area and point sources. A complete assessment cannot be made until all of the sources are included. Alpine Geophysics agreed to redo the analysis using both area and point sources and send it to the group. They will also share future analyses with the group. Comments should be sent to Jim Wilkinson, Saffet Tanrikulu and Cuong Tran.

5. Plans for Next Meeting

The next meeting is scheduled for Tuesday, July 12 at 10:00 am.

July 21, 2005

Attendees	Affiliation
Amir Fanai, Toch Mangat, Phil Martien, Cuong Tran	Bay Area AQMD
Charles Anderson, Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, David Nunes, Elena Nuño, Stephen Shaw, James Sweet	San Joaquin Valley Unified APCD
Gordon Garry	SACOG
Vernon Hughes, Anne Lin, Cheryl Taylor	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of June 14 Meeting Highlights

The meeting highlights were approved as written.

3. Temporal/Spatial Improvement Research Project

ARB staff related that the CCOS technical committee is asking for input from the SIP Gridded Inventory Coordination Group (GICG) on a project it is considering. The project would be to improve temporal and spatial inputs used for disaggregating county-level emissions to grid cell, hourly emissions. The group discussed many of the following topics, including data that is currently available to support such improvements. Below is a list of ideas raised at the meeting and at previous meetings of the SIP GICG. These ideas will be passed along to the CCOS Technical Committee for recommended inclusion in a proposed RFP.

Day-of-week Variations by Region

Description: Improve how point, area and on-road motor vehicle sources each vary for each of the 7 days by county. Hourly distribution of emissions by day of week could also be investigated.

Speciation Changes Over Time

Description: Technological shifts can cause the speciation profiles to be very different over time. The chemical composition of emissions sources such as architectural coatings and degreasing and printing solvents have changed considerably as regulations have been adopted. Changes in gasoline composition have been captured well in ARB's speciation profiles, but other categories have not kept pace.

Seasonal variations of trucks

Description: Certain truck activities can vary considerably by season. For example, truck use can be high during harvesting time and nearly zero at other times. Most of these trucks are registered, so the emissions are included in the inventory. There is no temporal variability included in EMFAC for these trucks. They are not well characterized spatially since the trucks generally operate on local roads rather than freeways.

ITN network for future years

Description: The ITN has been developed for the year 2000, but not for any future years. Some local COGs/MPOs have transportation networks for future years that could be used to estimate spatial changes.

Truck Activity

Description: In most regions, truck activity is assumed to be a percentage of light-duty vehicles. Separate truck activity estimation from light-duty vehicle projections.

Off-road categories

Description: Some off-road categories are probably not well characterized spatially or temporally. Off-road equipment (especially construction equipment) and farm equipment are two possibilities.

Goods Movement (Magnet sites)

Description: Emissions related to goods movement, such as distribution centers and truck stops are not well characterized. Such concentrated emissions may impact the modeling results.

High-emitting vehicles

Description: High-emitting vehicles are included in the on-road emission estimates. Little is known about their spatial or temporal distribution and whether they affect modeling results.

High NOx concentration near Bakersfield

Description: Modeling results have shown a large concentration of NOx emissions near Bakersfield. Several area source categories have high amounts of NOx in the grid cells covering Bakersfield. These categories include: 1) reciprocating internal combustion engines burning gaseous fuels, 2) diesel construction equipment, 3) locomotives, 4) natural gas combustion in service and commercial and 5) natural gas combustion in manufacturing and industrial. These sources could be investigated to check the appropriateness of the assigned spatial locations and accuracy of emissions.

Wildfires in future years

Description: The actual location of wildfires in future years is impossible to predict. However, we know that there will be wildfires in future years. Methods are being developed to predict the regions most likely to have wildfires. Should such data be included in modeling?

4. Review of Placeholder Episode Emissions

There were no questions regarding the review of placeholder episode emissions.

5. Status of PM Inventory Development

This agenda item was postponed to the next call, where ARB will give a status report of current PM inventory developments.

6. Other Issues

SJV staff mentioned that the CCOS Technical Committee is considering a second project. This project would investigate the data and assumptions used to estimate emissions in the future and in the past (forecasting and backcasting). How well do we forecast emissions? What kinds of things might have been missed? For example, were the urban growth in the SJV and Sacramento regions and the completion of UC Merced adequately characterized in the spatial distributions?

7. Plans for Next Meeting

The next meeting is scheduled for Tuesday, August 16 at 10:00 am.

August 16, 2005

Attendees	Affiliation
Amir Fanai, Toch Mangat, Phil Martien, Cuong Tran	Bay Area AQMD
Charles Anderson, Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, David Nunes	San Joaquin Valley Unified APCD
Paul Hensleigh	Yolo-Solano AQMD
Genie McGaugh	Ventura County APCD
Leonard Seitz	Caltrans Headquarters
Jim Wilkinson	Alpine Geophysics
Paul Allen, Michael Benjamin, Vernon Hughes, Larry Hunsaker, Anne Lin, Jeff Lindberg, Cheryl Taylor, Bruce Tuter	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of July 21 Meeting Highlights

The meeting highlights were approved as written.

3. Follow-up to Temporal/Spatial Improvement Research Project

At the July 21 meeting, the group discussed possible topics to be included in a research project to improve temporal and spatial inputs used for disaggregating county-level emissions to grid cell, hourly emissions. These ideas were passed along to the CCOS Technical Committee (TC) for recommended inclusion in a proposed RFP. A brief write-up on the project was distributed to the CCOS TC, asking for their comments by August 15. ARB will be drafting an RFP that will include the suggestions of this group and comments from the TC. ARB thanked all the members for their participation in this group. All of their input during past meetings, as written in the meeting highlights, enabled ARB to easily compile suggested topics for this project.

4. Status of ITN Version 2

Jim Wilkinson (Alpine Geophysics) gave an update on this project. At the time when this project was due to be completed (4/30/05), there were errors in the ITN. After further investigation, it was discovered that errors had occurred when extracting data from EMFAC. Alpine has now corrected those errors. Additionally, Alpine was able to develop a method to conflate the Madera and SCAG networks, so they will be included in version 2 of the ITN after all. Alpine is currently reintegrating all the networks into the ITN. Version 2 of the ITN includes all of the networks that were provided by the regional transportation planning agencies (RTPAs) and the California Department of Transportation (Caltrans) for use in this project.

ARB has asked Alpine to develop reports that could be used to QA the ITN. Alpine has provided ARB two files, using the MTC network as a test case. The first file shows the spatial and temporal distribution of gridded VMT by network. The data represent a weekday in July of 2000. This file can be read into PAVE for convenient review. PAVE will generate a separate plot of gridded VMT for each of EMFAC's 13 vehicle classes for each fuel type (gasoline, diesel and electric) by hour. There are also VMT totals by vehicle class and fuel type by hour. The second data set is an Excel spreadsheet that shows the VMT for each of the 13 vehicle classes by fuel type by hour. It is the same data as the first file without the spatial distribution. ARB will make the files available to the group for all the networks once they have received all the files. The group will be asked for feedback on the QA within two weeks once the files are made available.

Alpine has made updates to the final draft report to reflect the corrected errors mentioned above as well as previous comments from group participants. ARB agreed to redistribute the draft final report (sent in April) to the group for one last opportunity to make comments before the report is finalized.

As a reminder, the Integrated Transportation Network (ITN) is a seamless on-road transportation network that covers all of California. The ITN was developed from about 20 regional travel demand model loaded networks received from RTPAs as well as the Statewide Model from Caltrans. The ITN, developed for calendar year 2000, is used to spatially distribute the on-road mobile source emissions generated by EMFAC for use in air quality models.

5. Status of Inventory Development

Stationary Source Development

Michael Benjamin (ARB, Emission Inventory) gave an update on developing the stationary and area source inventory for use in modeling. ARB will begin the forecasting process in the next week or two. {Note: The schedule has been revised since the meeting. Forecasting will begin in early October.} When forecasting is completed, ARB will develop gridded inventory output using CEFS.

Several emission categories are currently undergoing changes. 1) Consumer products have been updated based on a 2001 Stationary Source Division (SSD) survey. 2) Commercial harbor craft have also been updated, reflecting a recently adopted SSD ATCM (Air Toxic Control Measure). 3) Ocean-going vessels are in the process of being updated. See below for more information.

There are two additional categories that may be updated in time for use in the final SIP inventory. ARB is working on an ATCM for in-use stationary agricultural diesel engines. The inventory will be updated once the regulation is approved. Any changes to the inventory available in time would be handled as an external adjustment. Emissions from railroads may also be revised. The changes would be handled as an external adjustment to the modeling inventory as well.

Off-Road Mobile Inventory

Due to recent staffing changes, the availability of the next version of the OFFROAD model is unknown. {Note: The next version of OFFROAD is scheduled to be available in November.} Once it is available, the emissions will be placed in CEIDARS and CEFS to develop gridded inventories.

On-Road Mobile Inventory

Due to recent staffing changes, the availability of the next version of the EMFAC model is unknown. {Note: The next version of EMFAC is scheduled to be available in November.} Once available, the emissions will be used to develop a gridded on-road motor modeling inventory.

HDD NOx Weekend Factor

Leonard Seitz, Caltrans, has prepared preliminary summaries from some of the piezo counter stations by day of week for calendar year 2004. There are 137 sites statewide. Piezo counters are able to count the number of axles on a vehicle that passes over it; count data are available for 15 vehicle classes. The group agreed to revive the Weigh-In-Motion (WIM) subcommittee and change its name to the Weekend Truck subcommittee. The subcommittee will meet on August 22. The group will discuss how the data could be used to improve the factors applied to the weekday travel models to approximate weekend travel. Separate factors will be developed for heavy-duty diesel trucks that represent northern California. The subcommittee will investigate the level that factors could be developed (e.g. by route, county, air basin, hour and/or vehicle type).

Ships

The districts previously estimated emissions from ships. ARB has now developed a statewide methodology. ARB has made presentations to the Emission Inventory Technical Advisory Committee (EITAC) and has been working directly with the districts to update this category. There will be base and future year emissions changes. Changes to the base year are due primarily to the inclusion of ships out to 100 miles offshore. NOx emissions statewide have approximately doubled due to the substantially larger area being inventoried. Hotelling and maneuvering emissions are also being updated. As part of the SECA project (Sulfur Emission Control Area), Professor Jim Corbett, University of Delaware, is developing growth factors. The growth appears to be higher than what is currently used. As mentioned at previous meetings, Professor Bob Bornstein developed day-specific shipping factors for the July 1999 and July/August 2000 episodes. The group agreed that Toch Mangat (BAAQMD), Michael Benjamin (ARB) and Cheryl Taylor (ARB) would investigate the appropriateness of reusing those factors with the new inventory to develop revised day-specific emissions for ships.

Nevada Emissions

ARB has been working with Gail Tonnesen (UC Riverside, CE-CERT) to obtain model-ready files that include the State of Nevada. The data are from the Western Regional Air Partnership (WRAP) for 1998. ARB is establishing the procedure to process the data and will provide more information about what types of sources are included at the next meeting.

Future Year Facilities

Sacramento Metro AQMD staff provided information on two facilities (a power plant and a dairy) that will begin operation after 2002 and therefore cannot be included in the 2002 CEIDARS inventory. ARB reported that files containing the data have been created in CEFS format, which is the same format that the point and area source emissions are provided to ARB modelers from ARB emission inventory staff.

Ammonia

Ammonia emissions, both base and future years, will be included in the next set of gridded inventories provided to ARB modelers from ARB emission inventory staff. Ammonia will join the usual suite of pollutants: CO, NO_x, SO_x, TOG and PM.

Speciation

ARB reported that there are no new VOC profiles available now, although new sources of data are always being sought. ARB staff is reviewing the speciation profiles for vintage and assignment to identify where better speciation profiles are needed. ARB plans on using only the SAPRC chemical mechanism and dropping CBIV.

BAAQMD staff asked the ARB which version, 5 or 6, should be used to speciate NO for biogenics. One version speciates NO to 100% NO. The other speciates NO into NO and NO₂. The BAAQMD will send ARB a note. ARB will investigate and respond.

Future Year ITN

Staff from Alpine Geophysics described the availability of future year networks that were gathered during the preparation of ITN version 2. There is no single future year of local transportation networks available statewide, but 2010 is the year that the most number of networks have in common. Future year networks are available for about half the networks in the ITN.

6. Other Issues

No other issues were discussed.

7. Plans for Next Meeting

The next meeting is scheduled for Thursday, September 8 at 10:00 am.

September 8, 2005

Attendees	Affiliation
Toch Mangat, Phil Martien	Bay Area AQMD
Charles Anderson, Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
David Garner, David Nunes, Stephen Shaw	San Joaquin Valley Unified APCD
Susan McLaughlin	Yolo-Solano AQMD
Genie McGaugh	Ventura County APCD
Leonard Seitz	Caltrans Headquarters
Paul Allen, Vernon Hughes, Larry Hunsaker, Anna Komorniczak, Martin Johnson, Mimi Sogotlugil, Cheryl Taylor, Bruce Tuter	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of August 16 Meeting Highlights

The meeting highlights were approved as written.

3. Status of ITN (version 2)

This item was postponed to the next meeting.

4. Status of Inventory Development

Stationary Source Development

Martin Johnson (ARB, Emission Inventory) gave an update on developing the stationary and area source inventory for use in modeling. ARB recently met with the inventory staff from the northern California districts. Since there is a delay in the release of the next version of EMFAC and OFFROAD, ARB has decided to use the time to allow point and area source changes to the 2002 inventory. Changes will be accepted until mid-October. Changes in growth and control factors will also be accepted until October 31, although ARB has received all the growth and control information that was expected. ARB will begin the forecasting process in November. By the end of November, ARB inventory staff hope to receive the outputs from EMFAC and OFFROAD to populate CEIDARS and CEFS with the on-road mobile and off-road mobile sources, respectively. When forecasting is completed, ARB will develop gridded inventory output using CEFS.

Off-Road Mobile Inventory

The next version of the OFFROAD model is scheduled to be available at the end of October. ARB staff hopes to receive the output from the OFFROAD model (off-road mobile source emissions) by the end of November to place in CEIDARS and CEFS. Following the receipt of the off-road emissions, ARB staff can begin developing the gridded inventories needed for modeling. Dr. David Chou was recently appointed the new section manager handling the OFFROAD model.

On-Road Mobile Inventory

The next version of the EMFAC model is scheduled to be available at the end of October. Once available, the emissions will be used to develop a gridded on-road motor modeling inventory.

HDD NOx Weekend Factor (report from Weekend Truck Subcommittee)

Caltrans staff reported on the Weekend Truck Subcommittee meeting on August 22. The purpose of the subcommittee is to discuss how data from AVC (Automatic Vehicle Classifier)

counters could be used to improve the factors applied to the weekday travel models to approximate weekend travel. As the next step in developing the factors, Caltrans staff prepared bar charts for some of the sites in District 7 (Los Angeles region); the bar charts were distributed to the SIP Gridded Inventory Coordination Group (GICG). Per the subcommittee's direction, the site-specific bar charts showed heavy-duty truck volumes (two-way) by day of week by hour. Heavy-duty trucks were defined as FHWA classes 7 through 14 to approximate heavy-duty diesel trucks. Only counts during the summer of 2004 were used, specifically the months of June, July and August without July 2-5 to remove unusual traffic patterns around the July 4th holiday.

ARB suggested that the subcommittee develop a recommended approach of exactly how the count data would be used. A draft methodology will be provided to the SIP GICG for comments. The group also suggested that Caltrans staff develop bar charts for Caltrans Districts 3 and 4 (includes the Bay Area and Sacramento). The group agreed that they would eventually like to see bar charts developed for the entire state. District 7 was chosen for analysis so that a comparison could be made to the factors developed previously by ARB from southern California WIM stations.

When working with the AVC data, the group asked if Caltrans staff could develop bar charts for FHWA vehicle classes 1 through 6. Ultimately a set of factors would be developed for FHWA classes 7 – 14 representing heavy-duty diesel trucks and another set of factors that would be applied to all remaining vehicles.

BAAQMD staff mentioned that they had received the WIM data used by Rob Harley in his recent paper. The data will be distributed to the SIP GICG.

Future Year ITN

ARB reported that modeling staff is hoping to develop the ITN for two future years (2010 and 2020) in-house. ARB staff will be working with Alpine Geophysics, developer of the ITN, to learn the process. There are still funds available in a current CCOS contract with Alpine Geophysics for inventory development support. If time to develop the future year networks in-house runs short, it may be possible to ask Alpine Geophysics to finish the networks.

Ships

ARB's Emission Inventory staff is working to complete the revised inventory for ships. ARB and BAAQMD staffs will be working to apply day-specific shipping factors to the revised inventory. Professor Bob Bornstein developed these factors for the July 1999 and July/August 2000 episodes.

Nevada Emissions

ARB has been working with Gail Tonnesen (UC Riverside, CE-CERT) to obtain model-ready files that include the State of Nevada. The data are from the Western Regional Air Partnership (WRAP) for 1998. ARB is making progress on setting up the procedure to process the data. The WRAP data include all components of the inventory: stationary, area-wide, mobile and natural sources.

Tanks

ARB explored with the group whether they would be interested in developing day-specific inventories for petroleum storage tanks. EPA has recently released a new version of the TANKS program. TANKS estimates emissions on a tank by tank basis and requires detailed information about each tank. Day-specific meteorological data could be used to estimate

emissions rather than the annual average data used to estimate the emissions that are put into CEIDARS and then used for modeling. It would be a time-consuming process for the districts, yet the emissions from tanks are not that large. ROG emissions from tanks in the Bay Area are less than 4 tons/day and only 20 tons/year in Sacramento. For tanks containing heavy crude, the emissions would not change much due to the low reactivity. Many tanks vent to control equipment, so the emissions from those tanks would be unaffected. After considerable discussion, the group decided that it would probably not be worth the effort that would be required. SJVUAPCD staff will investigate the question further.

Future Year Facilities

ARB has developed the emission files for two facilities that began operation after 2002 as provided by Sacramento Metro AQMD staff. SJVUAPCD staff asked if emission estimates have been made to include the impact of the opening of UC Merced. It was suggested that UC Davis could be used as a surrogate, but no specific method of how that would be accomplished was given.

Ammonia

No new information was reported.

Speciation

No new information was reported.

5. Other Issues

No other issues were discussed.

6. Plans for Next Meeting

The next meeting is scheduled for Tuesday, September 27 at 10:00 am.

September 27, 2005

Attendees	Affiliation
Amir Fanai, Toch Mangat, Phil Martien, Cuong Tran	Bay Area AQMD
Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, David Nunes, Elena Nuno, Stephen Shaw	San Joaquin Valley Unified APCD
Susan McLaughlin	Yolo-Solano AQMD
Genie McGaugh	Ventura County APCD
Harold Brazil	MTC
Leonard Seitz	Caltrans Headquarters
Jim Wilkinson	Alpine Geophysics
Paul Allen, Vernon Hughes, Larry Hunsaker, Anne Lin, Jeff Lindberg, Mimi Sogotlugil, Cheryl Taylor, Doug Thompson, Bruce Tuter	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of September 8 Meeting Highlights

The meeting highlights were approved as written.

3. Action Items

Write-up by Weekend Truck Subcommittee

The group discussed the write-up from the Weekend Truck Subcommittee about the proposed method to develop day-of-week adjustment factors. The group made three suggestions: 1) the addition of an example to the write-up; 2) apply the factors developed from the Automatic Vehicle Counters by county to the gravity model (used to estimate commercial VMT in the ITN); and 3) adjust heavy-duty traffic volumes within a time period based on the hourly traffic counts. The Subcommittee agreed to meet on October 13 to discuss these ideas further.

Caltrans staff is preparing bar charts for some of the sites in District 10 (Northern SJV and Mountain Counties) and will be working on Districts 3 and 4.

Follow-up to Area Source Emissions Issue

ARB's Emission Inventory staff will be investigating the error recently discovered in a district area source category. To aid in the investigation, Larry Hunsaker (ARB) agreed to produce a report comparing emissions by year. See item 6 for more information.

4. Status of ITN (version 2)

Jim Wilkinson, Alpine Geophysics, gave the status on the preparation of the ITN and the final report. Alpine is converting the ITN to work completely in ArcAML. The last version of the ITN included processing in ArcAML, SAS and Fortran. When the processing is completed, Alpine will join the networks. Alpine hopes to provide ARB the ITN and final report this week.

ARB asked how facility type is standardized in the ITN. Alpine responded that facility type is standardized to the federal standard of 1 – 9 and is maintained on the ITN.

Previously, ARB had asked Alpine to develop reports that could be used to QA the ITN. Alpine provided two types of files. The first file shows the spatial and temporal distribution of gridded VMT by network. The data represent a weekday in July of 2000. This file can be read into PAVE for convenient review. PAVE will generate a separate plot of gridded VMT for each of EMFAC's 13 vehicle classes for each fuel type (gasoline, diesel and electric) by hour. There are also VMT totals by vehicle class and fuel type by hour. The second data set provided was an Excel spreadsheet that shows the VMT for each of the 13 vehicle classes by fuel type by hour. It is the same data as the first file without the spatial distribution. ARB made the files available to the group for all the networks on September 13. The group was asked for feedback on the QA by September 27. ARB had not received any comments yet. BAAQMD and SJVUAPCD staff agreed to look at the QA files this week. ARB will compile all comments for further investigation.

5. Status of Inventory Development

Stationary Source Development

ARB gave an update on developing the stationary and area source inventory for use in modeling. ARB staff is performing quality assurance on the 2002 inventory. ARB will begin the forecasting process in November. By the end of November, ARB inventory staff hope to receive the outputs from EMFAC and OFFROAD to populate CEIDARS and CEFS with the on-road mobile and off-road mobile sources, respectively. When forecasting is completed, ARB Emission Inventory staff will develop gridded inventory output using CEFS near the end of 2005.

Off-Road Mobile Inventory

As mentioned previously, the next version of the OFFROAD model is tentatively scheduled to be available at the end of October for internal ARB use. ARB staff hopes to receive the output

from the OFFROAD model (off-road mobile source emissions) by the end of November to place in CEIDARS and CEFS.

On-Road Mobile Inventory

The next version of the EMFAC model is tentatively scheduled to be available at the end of October for internal ARB use. Once available, the emissions will be used to develop a gridded on-road motor modeling inventory.

HDD NOx Weekend Factor (report from Weekend Truck Subcommittee)

See item 3 above.

Future Year ITN

ARB reported that modeling staff would soon begin to develop the ITN for two future years (2010 and 2020) in-house. ARB staff will be working with Alpine Geophysics, developer of the ITN, to learn the process.

Ships

ARB reported that once the revised emissions for ships are updated in CEIDARS, ARB would work with BAAQMD to apply the day-specific shipping factors. Professor Bob Bornstein developed these factors for the July 1999 and July/August 2000 episodes.

Nevada Emissions

ARB is making progress on setting up the procedure to process the model-ready files obtained from Gail Tonnesen (UC Riverside, CE-CERT) to add the WRAP data for the State of Nevada.

Tanks

At the previous meeting the group explored the possibility of developing day-specific inventories for petroleum storage tanks. The group decided that the impact on emissions would be relatively small and that resources would not be available to make the necessary calculations. This topic will be dropped from the agenda in future meetings.

Future Year Facilities

No new information was reported. District staff was reminded that emissions from facilities that begin operation after the base year inventory (2002) could still be included in the modeling. Please provide the appropriate information to ARB.

Ammonia

No new information was reported. As mentioned previously, ammonia emissions will be generated along with the criteria emissions in the next round of gridding.

Speciation

ARB recently added new speciation profiles for consumer products and architectural coatings to its database. ARB staffs are reviewing the speciation database to ensure that the most appropriate profile is assigned to each emission category (SCC) and that the latest available profiles are used.

6. Other Issues

ARB and SJVUAPCD staffs recently uncovered an error in the area source emissions in Kern County. Upon investigating concerns by modelers that NOx emissions appear to be too high in the Bakersfield area, staffs noticed that the emissions from natural gas combustion in service and commercial were significantly higher than what was originally estimated by the district. The

reconciled emissions in 1990 and 1991 were near 400 tpy, yet in 1993 the emissions jumped to almost 6,000 tpy. One of the QA reports available in CEIDARS is a reconciliation report that displays which point sources get reconciled with which area source category. The 1990 reconciliation report showed that several cogeneration turbines with very large NO_x emissions were incorrectly being reconciled with this category. Although the SIC/SCC assignments for these cogeneration turbines were later corrected to be reconciled with cogeneration, the total area source emissions (called the “unreconciled emissions”) were never reduced to remove the incorrect emissions. These large unreconciled emissions have been grown in CEIDARS to the present. SJVUAPCD staff suggested that this topic be raised at EITAC since this problem may have occurred for other categories and other districts. ARB offered to develop a report showing the percent change of emissions by year for each area source category to help identify large changes that may indicate a need for further investigation.

7. Plans for Next Meeting

The next meeting is scheduled for Tuesday, October 25 at 1:30 pm.

October 30, 2005

Attendees	Affiliation
Amir Fanai, Toch Mangat	Bay Area AQMD
Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, David Garner, David Nunes, Stephen Shaw, Patrick Wenzinger	San Joaquin Valley Unified APCD
Susan McLaughlin	Yolo-Solano AQMD
Harold Brazil	MTC
Jim Wilkinson	Alpine Geophysics
Vernon Hughes, Larry Hunsaker, Martin Johnson, Anne Lin, Cheryl Taylor	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of September 27 Meeting Highlights

The meeting highlights were approved as written.

3. Action Items

Report from Weekend Truck Subcommittee

The Weekend Truck Subcommittee met on October 13. Previously, the SIP Gridded Inventory Coordination Group (GICG) had made three suggestions.

➤ Addition of an example to the write-up

The Subcommittee agreed that an example should be added, but the methodology has not been refined enough to include an example at this time.

➤ Apply the factors developed from the Automatic Vehicle Counters (AVC) by county to the gravity model (used to estimate commercial VMT in the ITN)

The Subcommittee agreed to take the assigned volumes from the gravity model in the ITN and adjust the volumes with the hourly ratios developed from the count data by county. The main item that the Subcommittee is debating is whether the ratios should be assigned to all facility (i.e. road) types or just to state highways since the AVC data are only on state highways. The term state highways includes interstates as well. Subcommittee members

are looking for data from other sources, especially those on non-highways. Mike Bitner (Fresno COG) has provided traffic counts from Fresno County; the data are hourly counts by day that have been classified into the 15 FHWA vehicle classification scheme. ARB is processing the data. The Subcommittee is also considering sorting highways into urban and rural to see if rural highways could be used as a surrogate for non-state highways.

➤ Adjust heavy-duty traffic volumes within a time period based on the hourly traffic counts

The Subcommittee agreed to adjust volumes within a time period using ratios from the traffic counts. The COGs usually report data by time period (e.g. am peak) that covers a few hours. The totals for each time period would remain unchanged, but the volumes within a time period would be adjusted.

The Subcommittee plans to meet the week of November 7 to further refine the methodology to adjust weekday/weekend emissions.

Status of Area Source Error Investigation

ARB's Emission Inventory staff is investigating the error discovered in a district area source category. To aid in the investigation, Larry Hunsaker (ARB) produced two reports that compare emissions by region and category for the available CEIDARS databases from 1987 through 2003. The first report displays emissions for the entire category, including both point and area sources. The second report displays just the reconciled area source portion of the category. The second report clearly shows the error that was detected in Kern County when comparing the 1991 to 1993 emission changes. Item 6 of the September 27, 2005 minutes provides detailed information on the error. The group asked ARB to post these spreadsheets.

4. Status of ITN (version 2)

Jim Wilkinson, Alpine Geophysics (AG), gave the status on the preparation of the ITN and the final report. AG has posted the link-based network that contains 98% of the VMT. The TAZ-based portion of the ITN, which contains the remaining 2% of the VMT and the trip distribution, is being corrected and will be available soon. The link-based file is a zipped ARC export file. AG is hoping to provide the TAZ-based data by Friday with the final report following shortly. After the group is notified that the TAZ-based file is available, ARB asked to receive comments within 2 weeks. A call will be set up if there are any major concerns to discuss.

Previously, AG developed reports that could be used to QA the ITN. One set of reports showed the spatial and temporal distribution of gridded VMT by network using PAVE. The second set of reports was an Excel spreadsheet that showed the VMT for each of the 13 vehicle classes by fuel type by hour.

ARB received preliminary feedback from BAAQMD and SJVUAPCD staff. BAAQMD staff made a map comparing gridded VMT for versions 1 and 2 of the ITN and included major roadways per TIGER data. Although there are a few locations where the roadways and gridded emissions don't match, overall version 2 has done a better job of matching roadways to emissions. SJVUAPCD staff provided four comments. Two comments relate to information supplied by EMFAC. Another comment asked why electric vehicles are in the ITN even though there are no emissions. AG responded that electric vehicles are carried in the ITN since they were supplied by EMFAC. The fourth comment mentioned that in the PAVE file containing the entire ITN, the counties with no local transportation networks showed no VMT at all. Those counties should contain VMT from the statewide (Caltrans) network. AG reviewed the file during the call and agreed that the data were indeed missing. AG will revise the QA file for the entire ITN and

make it available to the group. All of the comments received to date have been compiled for further investigation and posted on ARB's Orthus ftp site.

5. Status of Inventory Development

Stationary Source Development

ARB gave an update on developing the stationary and area source inventory for use in modeling. ARB staff is performing quality assurance on the 2002 inventory. ARB is still on schedule to begin the forecasting process in November. By the end of November, ARB inventory staff hope to receive the outputs from EMFAC and OFFROAD to populate CEIDARS and CEFS with the on-road mobile and off-road mobile sources, respectively. When forecasting is completed, ARB Emission Inventory staff will develop gridded inventory output for the CCOS domain using CEFS near the end of 2005. Planning inventories are planned to be available in February 2006.

Off-Road Mobile Inventory

The next version of the OFFROAD model is tentatively scheduled to be available mid-November for internal ARB use, including QA of the data. ARB staff hopes to receive the output from the OFFROAD model (off-road mobile source emissions) by the end of November to place in CEIDARS and CEFS.

On-Road Mobile Inventory

The next version of the EMFAC model is tentatively scheduled to be available mid-November for internal ARB use, including QA of the data. Once available, the emissions will be used to develop a gridded on-road motor vehicle modeling inventory.

Future Year ITN

ARB reported that modeling staff would begin learning the process to develop the ITN for two future years (2010 and 2020) when the ITN version 2 is received.

Ships

ARB reported that once the revised emissions for ships are updated in CEIDARS, ARB would work with BAAQMD to apply the day-specific shipping factors. Professor Bob Bornstein developed these factors for the July 1999 and July/August 2000 episodes.

Nevada Emissions

ARB has received the model-ready files from Gail Tonnesen (UC Riverside, CE-CERT) developed for the WRAP covering the State of Nevada. There have been two difficulties in using the WRAP data. First, the WRAP data used 12 km grid cells, so the emissions must be converted to the CCOS 4 km grid. Second, files were developed using CB-IV, but the modeling for CCOS is being run with SAPRC-99 chemistry. ARB described two options to handle this problem. One possibility is to use SMOKE. However ARB modeling staffs aren't familiar with its use and won't likely have the time to learn it. Another option is to map back to SAPRC-99 from CB-IV. This will probably be the option that ARB will take. Although it may introduce some small inaccuracies in the inventory, ARB believes that Nevada emissions have little impact on modeling results in the San Joaquin Valley, Bay Area or Sacramento regions. ARB staff is pursuing another option of obtaining gridded, but not yet speciated, files from UCR.

Future Year Facilities

No new information was reported. District staff was reminded that emissions from facilities that begin operation after the base year inventory (2002) could still be included in the modeling.

Ammonia

The ammonia emissions from livestock waste have been updated using new higher emission factors that were developed from recent studies. Additionally, the ammonia inventory that was provided to SJVUAPCD staff for their PM_{2.5} SIP was underestimated because some of the new categories developed for ammonia (e.g. diapers) were inadvertently left out. ARB will work with district staff to provide a revised ammonia inventory in about a week. As mentioned previously, ammonia emissions will be generated along with the criteria emissions in the next round of gridding.

Speciation

ARB staffs are continuing to review the speciation database to ensure that the most appropriate profile is assigned to each emission category (SCC) and that the latest available profiles are used.

6. Other Issues

No other issues were discussed.

7. Plans for Next Meeting

The next meeting is scheduled for Wednesday, November 30 at 1:30 pm.

November 30, 2005

Attendees	Affiliation
Amir Fanai, Toch Mangat	Bay Area AQMD
Charles Anderson, Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, Brant Botill, Jessi Hafer, Britton Huggins, Elena Nuno, Stephen Shaw	San Joaquin Valley Unified APCD
Genie McGaugh	Ventura County APCD
Harold Brazil	MTC
Leonard Seitz	Caltrans Headquarters
Jim Wilkinson	Alpine Geophysics
Paul Allen, Vernon Hughes, Larry Hunsaker, Martin Johnson, Cheryl Taylor, Doug Thompson, Bruce Tuter	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of October 30 Meeting Highlights

The meeting highlights were approved as written.

3. Action Items

Report from Weekend Truck Subcommittee

The Weekend Truck Subcommittee met on November 15. Leonard Seitz reported that he is compiling AVC data for District 4 (Bay Area). ARB mentioned that the subcommittee is working to refine the methodology. One suggestion is to apply the hourly adjustment factors by county, EMFAC vehicle class, month and day. The factors would be applied to the ITN before running through DTIM. Since the count data (AVC) are sorted into FHWA vehicle class, a mapping is needed between FHWA and EMFAC vehicle classes. Unfortunately, this mapping is not straightforward; the subcommittee will work to resolve this issue.

The subcommittee is making headway on developing a methodology. Some members of the subcommittee have expressed concern that a complete methodology may not be developed in time to be used in modeling inventories that will be used in the SIPs. As a backup plan, BAAQMD staff proposed a simplified methodology that could be used to improve the current methods in case the subcommittee is unable to fully develop a new method and the data to support it in time. The subcommittee plans to discuss the backup plan, along with many other issues, at its upcoming meeting on December 8.

Status of Area Source Error Investigation

ARB's Emission Inventory staff is correcting the error discovered in a district area source category. The correction has already been made to the 2002 database; database years 1993 through 2001 will be corrected soon.

Previously, Larry Hunsaker (ARB) produced two reports that compare emissions by region and category for the available CEIDARS databases from 1987 through 2003. The first report displays emissions for the entire category, including both point and area sources. The second report displays just the reconciled area source portion of the category. ARB posted these spreadsheets to ARB's Orthus ftp site. Larry has since produced an additional QA report, similar to the two previous QA reports, that displays only point source emissions by category (EICSUM). ARB will also post these spreadsheets to Orthus.

4. Status of ITN (version 2)

Jim Wilkinson, Alpine Geophysics (AG), gave the status on the preparation of the ITN and the final report. AG is packaging all the files that make up the entire ITN version 2. He plans to post the files today or tomorrow with the final report following shortly. ARB will notify the group when the ITN v2 and final report are available.

Previously, AG developed reports that could be used to QA the ITN. One set of reports showed the spatial and temporal distribution of gridded VMT by network using PAVE. The second set of reports was an Excel spreadsheet that showed the VMT for each of the 13 vehicle classes by fuel type by hour.

As requested at the October 30 call, AG revised the QA file for the entire ITN; it was made available to the group on November 1. ARB has received no new comments on the QA reports. All of the comments received to date have been compiled for further investigation and posted on ARB's Orthus ftp site. AG will review the comments.

5. Status of Inventory Development

Stationary Source Development

ARB gave an update on developing the stationary and area source inventory for use in modeling. ARB staffs are wrapping up quality assurance of the 2002 inventory. As part of the QA, ARB staffs have been comparing emissions in the 2002 database with earlier projections of the year 2002. ARB plans to begin the forecasting process in early December. By December 16, ARB inventory staff hope to receive the outputs from OFFROAD to populate CEIDARS and CEFS with the off-road mobile sources. When forecasting is completed, ARB Emission Inventory staff will develop gridded inventory output for the CCOS domain using CEFS. ARB modeling staffs are scheduled to receive the CEFS output by the end of December.

Off-Road Mobile Inventory

The next version of the OFFROAD model is tentatively scheduled to be available mid-December for internal ARB use, including QA of the data. ARB staff hopes to receive the output from the OFFROAD model (off-road mobile source emissions) by December 16 to place in CEIDARS and CEFS.

On-Road Mobile Inventory

ARB Inventory staff are scheduled to receive a snapshot from the next version of EMFAC in mid-December for internal ARB use, including QA of the data. Once available, the emissions will be used to develop a gridded on-road motor vehicle modeling inventory. Review of EMFAC will continue into 2006. The next version of EMFAC is planned for release when the SIPs are completed. ARB will likely receive new activity data from the COGs this spring.

Future Year ITN

ARB reported that modeling staff plans to begin developing the ITN for two future years (2010 and 2020) when the ITN version 2 is received.

Ships

ARB will be working with BAAQMD to apply the day-specific shipping factors developed by Professor Bob Bornstein for the July 1999 and July/August 2000 episodes.

Nevada Emissions

ARB has received the model-ready files from Gail Tonnesen (UC Riverside, CE-CERT) developed for the WRAP covering the State of Nevada. There have been two difficulties in using the WRAP data. First, the WRAP data used 12 km grid cells, so the emissions must be converted to the CCOS 4 km grid. Second, files were developed using CB-IV, but the modeling for CCOS is being run with SAPRC-99 chemistry. ARB plans to map from CB-IV to SAPRC-99. Although it may introduce some small inaccuracies in the inventory, ARB believes that Nevada emissions have little impact on modeling results in the San Joaquin Valley, Bay Area or Sacramento regions. ARB staff is trying to obtain gridded, but not yet speciated, files from UCR.

Future Year Facilities

No new information was reported. District staff was reminded that emissions from facilities that begin operation after the base year inventory (2002) could still be included in the modeling.

Ammonia

ARB mentioned at the last meeting that the ammonia inventory that was provided to SJVUAPCD staff for their PM_{2.5} SIP was underestimated because some of the new categories developed for ammonia (e.g. diapers) were inadvertently left out. ARB provided a revised ammonia inventory to the district. ARB inventory staff are now able to forecast ammonia emissions from on-road motor vehicles since ammonia emissions will not be handled within EMFAC at this time. As mentioned previously, ammonia emissions will be generated along with the criteria emissions in the gridded CEFS output that will be developed soon for point and area sources.

Organic Speciation

ARB staffs are continuing to review the speciation database to ensure that the most appropriate profile is assigned to each emission category (SCC) and that the latest available profiles are used.

PM Speciation/Size Cuts

ARB has received some funds for improving PM speciation and size cut data. ARB is prioritizing which data need the most improvement.

6. Other Issues

Genie asked how Moyer reductions would be handled in the modeling inventories. Martin responded that they would be handled as external adjustments. Each district would decide how Moyer reductions would be applied and to which emission categories (EICs).

7. Plans for Next Meeting

The next meeting is scheduled for Tuesday, January 10 at 1:30 pm.

January 10, 2006

Attendees	Affiliation
Amir Fanai, Toch Mangat, Phil Martien	Bay Area AQMD
Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, David Garner, David Nunes, Stephen Shaw	San Joaquin Valley Unified APCD
Genie McGaugh	Ventura County APCD
Susan McLaughlin	Yolo-Solano AQMD
Jim Wilkinson	Alpine Geophysics
Paul Allen, Martin Johnson, Anne Lin, Mimi Sogotlugil, Cheryl Taylor, Bruce Tuter	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of November 30 Meeting Highlights

The meeting highlights were approved as written.

3. Action Items

Report from Weekend Truck Subcommittee

The Weekend Truck Subcommittee met on January 5. Leonard Seitz has compiled AVC (count) data for District 4 (Bay Area). The subcommittee is working to refine the methodology. Factors are being developed to reapportion the daily truck volumes to new diurnal patterns based on the count data. These factors would be applied to the ITN before running through DTIM. Since the count data (AVC) are sorted into FHWA vehicle class, a mapping is needed between FHWA and EMFAC vehicle classes. Although the mapping is not straight forward, the subcommittee is considering the following approximation: 1) count data from FHWA classes 7 and 8 would be used to distribute light heavy-duty trucks and medium heavy-duty trucks and 2) count data from FHWA classes 9 through 14 would be used to distribute heavy heavy-duty trucks. Separate factors would be developed for the midweek days (Tuesday, Wednesday and Thursday combined) and individually for Friday, Saturday, Sunday and Monday. Count data from June 1 through August 31, 2004 (excluding July 2-5) will be used to develop the factors. Additionally, the subcommittee is developing a second set of factors to scale the volumes of passenger cars and trucks for a Friday, Saturday, Sunday and Monday compared to the average of Tuesday, Wednesday and Thursday (Tuesday, Wednesday and Thursday will remain unchanged).

The subcommittee is making headway on developing a methodology. Some members of the subcommittee have expressed concern that a complete methodology may not be developed in time to be used in modeling inventories that will be used in the SIPs. As a backup plan, BAAQMD staff proposed a simplified methodology that could be used to improve the current methods in case the subcommittee is unable to fully develop a new method and the data to support it in time. The subcommittee approved the backup plan.

4. Status of ITN (version 2)

Jim Wilkinson, Alpine Geophysics (AG), gave the status on the preparation of the ITN and the final report. In mid-December, AG provided to ARB the final report and all the files that made up the entire ITN version 2. Jim plans to visit ARB soon to meet with ARB staff and answer questions on the creation of the ITN version 2.

ARB asked Jim to prepare DTIM-ready files. ARB staff is working to get DTIM running using the ITN version 2.

5. Status of Inventory Development

Stationary Source Development

ARB inventory staff described the development of emission projections for all years from 1990 through 2030 using the 2002 CEIDARS base year inventory. ARB staff explained that area and point sources were handled differently for years before the inventory base year. Emissions from area sources were projected both forward (2003 through 2030) and backwards (1990 through 2001) from the 2002 base year using the growth and control information in CEFS (ARB's forecasting system). Emissions from point sources for the years 2003 through 2030 were also forecast from the 2002 base year using the growth and control information in CEFS. However, emissions from point sources in earlier years (1990 through 2001) used historical point source information (e.g. the point source emissions for 2000 came from the 2000 CEIDARS base year inventory).

ARB inventory staff provided gridded outputs from CEFS to ARB modeling staff at the end of December 2005. The CEFS outputs included a weekday and a weekend day for all twelve months for every year from 1990 through 2030. Due to the variety of years and modeling needs for the upcoming ozone and PM SIPs along with inputs required for CCOS contracts, ARB inventory staff developed new routines to be able to provide many more inventories than have ever been requested previously. [Great job!!!]

Data from the latest version of the OFFROAD model was used in the inventory provided in December. This inventory was complete for 2002 through 2030 as well as for the year 2000. The historical point source information was not included for 1990 through 1999 plus 2001 to allow ARB inventory staff time to correct the UTM coordinates in these years to be consistent with the 2002 inventory. A few consumer products categories were inadvertently left out. A revised inventory will be provided to ARB modeling staff when the corrections are completed. ARB modeling staffs are hoping to have CAMx model-ready files ready by mid-February. This would include a base year inventory for the August 1997 episode in southern California and the July/August 2000 episode for northern California.

ARB inventory staffs are preparing an "Ozone SIP" web site to allow viewing of the gridded inventories generated by CEFS. Planning inventories are also being developed. ARB will notify the SIP GICG when data from these inventories available for viewing.

Off-Road Mobile Inventory

ARB inventory staff received output from the latest version of the OFFROAD model in mid-December. The data were placed in CEIDARS and CEFS and were included in the gridded CEFS outputs provided at the end of December. ARB staffs are continuing QA of the data.

On-Road Mobile Inventory

ARB modeling staff received a snapshot of the preliminary working version of the new EMFAC model to prepare preliminary draft gridded on-road motor vehicle emission inventories for preliminary modeling. Review of EMFAC will continue into 2006. This next version of EMFAC is planned for release when the SIPs are completed. ARB may receive new activity data from the COGs this summer.

Future Year ITN

ARB modeling staff is beginning to learn the process to develop the ITN version 2. ARB staff plans to create an ITN for two future years, 2010 and 2020, using the latest available data from the COGs.

Ships

ARB will be applying the day-specific shipping factors developed by Professor Bob Bornstein for the Bay Area for the July 1999 and July/August 2000 episodes to the new inventories.

Nevada Emissions

ARB has received the model-ready files from Gail Tonnesen (UC Riverside, CE-CERT) developed for the WRAP covering the State of Nevada. There have been two difficulties in using the WRAP data. First, the WRAP data used 12 km grid cells, so the emissions needed to be converted to the CCOS 4 km grid, which ARB has now done. Second, files were developed using CB-IV chemistry rather than the SAPRC-99 chemistry used for CCOS modeling. ARB plans to map from CB-IV to SAPRC-99. Although it may introduce some small inaccuracies in the inventory, ARB believes that Nevada emissions have little impact on modeling results in the San Joaquin Valley, Bay Area or Sacramento regions.

Future Year Facilities

No new information was reported for CCOS. District staff was reminded that emissions from facilities that begin operation after the base year inventory (2002) could still be included in the modeling. Ventura County APCD staff has provided data for a new offshore Liquefied Natural Gas facility to ARB for the southern California modeling. The LNG facility is expected to begin operation in 2011.

Ammonia

Ammonia emissions were generated along with the criteria emissions in the gridded CEFS output that was provided for point and area files for modeling. Ammonia will now be a standard pollutant that is generated for all gridded CEFS files.

Organic Speciation

ARB staffs are continuing to review the speciation database to ensure that the most appropriate profile is assigned to each emission category (SCC) and that the latest available profiles are used. Sac Metro AQMD staff asked several questions about the changes in composition of some solvents to use more acetone and whether those changes have been reflected in ARB's speciation profiles. ARB staff will follow up to answer the questions.

PM Speciation/Size Cuts

ARB staffs have peer reviewed about 10 new PM profiles and they have been added to ARB's database.

6. Other Issues

No other issues were discussed.

7. Plans for Next Meeting

The next meeting is scheduled for February 9 at 10:00 am.

April 6, 2006

Attendees	Affiliation
Amir Fanai, Toch Mangat, Phil Martien	Bay Area AQMD
Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, David Nunes, Leland Villalvazo	San Joaquin Valley Unified APCD
Alan Ballard, Genie McGaugh	Ventura County APCD
Rene Toledo	Yolo-Solano AQMD
Harold Brazil	MTC
Leonard Seitz	Caltrans Headquarters
Jim Wilkinson	Alpine Geophysics
Chris Emery	Environ
Paul Allen, Vernon Hughes, Martin Johnson, Linying Li, Anne Lin, Jeff Lindberg, Klaus Scott, Mimi Sogotlugil, Cheryl Taylor, Eugene Yang	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made.

2. Approval of January 10 Meeting Highlights

The meeting highlights were approved as written.

3. Gridded Inventory Components

Biogenics

Klaus Scott summarized the updates to the gridded biogenic emissions used for modeling as described in a document previously sent to the SIP GICG members. Several improvements have been made to ARB's BEIGIS model. First, BEIGIS now operates in a standard statewide modeling domain rather than the separate domains for CCOS and SCOS previously maintained. Using a single domain for the state makes it possible to gain efficiencies in generating biogenic emissions for modeling. A second improvement is the expansion of the geographic extent of the representation of croplands in the state. More data have become available from the Department of Water Resources (DWR). Additionally, agricultural land use data from GAP and SCAG were combined with County Crop Report data to provide crop coverage for 56 of 58 counties. Only San Francisco and Inyo Counties are not included. A third improvement relates to the use of a new set of satellite data for the Leaf Area Index (LAI). LAI is used to scale inputs from leaf level to landscape scale for natural areas and croplands. Eight-day average 1 km² data generated by MODIS satellites are used in place of monthly average LAI derived from 1 km² AVHRR satellite data. A fourth improvement relates to the handling of Other VOCs (OVOCs). Previously, OVOCs were scaled to 30% of the sum of isoprene, monoterpene and methylbutenol emissions at each grid cell during post-processing. OVOCs are a category of biogenic VOC that include oxygenated compounds of relatively low reactivity. An expert in the

field now recommends that OVOCs be modeling using only a (monoterpene) temperature response algorithm and a global default emission factor. This recommendation has now been incorporated into BEIGIS.

Biogenic VOC (BVOC) emissions were modeled for the July/August 2000 episode using the improvements described above. Although individual species increased by a factor between 1.5 and 2, the overall BVOC emissions were on average 1.7 times greater than total BVOC emissions modeled with prior inputs. The difference is mainly due to the change in LAI data. Modeled emissions compared well with flux measurements of MBO and monoterpene emissions taken at Blodgett Experimental Forest.

Stationary and Off-Road Mobile Sources

ARB inventory staff provided gridded outputs from CEFS to ARB modeling staff at the end of December 2005. The CEFS outputs included a weekday and a weekend day for all twelve months for every year from 1990 through 2030, based on the 2002 CEIDARS database. Inventory staff are now rolling in a few minor changes to the 2002 inventory. Additionally, corrected UTM coordinates are now included in the historical point source information for 1990 through 2001. These corrections were made to standardize location data to be consistent with the 2002 inventory due to reporting of location data in various coordinate systems.

ARB inventory staff is scheduled to receive data from a new version of the OFFROAD model in mid-April. The OFFROAD model has been revised due to recent goods movement work by ARB staff. Previously, data from the OFFROAD model were summed and reported to CEIDARS in 80 emissions categories. Beginning with this next version, the emissions will be reported in 1,800 categories, reflecting the level of detail that is carried in the OFFROAD model. ARB inventory staff plan to provide a revised inventory in early May. After the revised inventory is received, ARB modeling staffs will be processing the data into CAMx model-ready files. The first model-ready files would likely include a base and future year inventory for the August 1997 episode in southern California and the July/August 2000 episode for northern California.

ARB inventory staffs are preparing an "Ozone SIP" web site to allow viewing of the gridded inventories generated by CEFS. This web site will be available to district staffs. ARB inventory staffs will notify districts when the web site is ready.

On-Road Mobile Sources

Previously, ARB modeling staff received a snapshot of the preliminary working version of the new EMFAC model in order to prepare preliminary draft gridded on-road motor vehicle emission inventories. Since results from the new EMFAC are still preliminary, output files cannot yet be shared due to conformity issues. The next version of EMFAC is planned for release in November 2006.

Through a CCOS contract, Jim Wilkinson of Alpine Geophysics (AG) is preparing input files for DTIM that use version 2 of the Integrated Transportation Network (ITNv2.0). The Direct Travel Impact Model (DTIM) is used to grid on-road motor vehicle emissions. AG and ARB modeling staffs have been working to get DTIM running. ARB modeling staffs hope to have DTIM running within a week. In the next couple of weeks, ARB modeling staffs plan to develop model-ready files and summary reports for on-road motor vehicles.

Temporal Adjustments (Weekend Truck Subcommittee)

Cheryl summarized the methodology proposed by the Weekend Truck Subcommittee to improve the temporal distribution of gridded on-road motor vehicle emissions. Leonard Seitz has compiled AVC (count) data for the entire state for calendar year 2004. Factors are being developed to reapportion the daily truck volumes to new diurnal patterns based on the count data. Separate factors would be developed for the midweek days (Tuesday, Wednesday and Thursday combined) and individually for Friday, Saturday, Sunday and Monday. Count data from June 1 through August 31, 2004 (excluding July 2-5) will be used to develop the factors. Factors were prepared for each Caltrans District. One or more counties may fall into a single Caltrans District. All counties within each Caltrans district will receive the same adjustment. These factors would be applied to the ITN before running through DTIM. Since the count data (AVC) are sorted into FHWA vehicle class, a mapping is needed between FHWA and EMFAC vehicle classes. The subcommittee has made the following approximation: 1) count data from FHWA classes 7 and 8 would be used to distribute light heavy-duty trucks and medium heavy-duty trucks and 2) count data from FHWA classes 9 through 14 would be used to distribute heavy heavy-duty trucks.

Additionally, the subcommittee is developing a second set of factors to scale the volumes of passenger cars and trucks for a Friday, Saturday, Sunday and Monday compared to the average of Tuesday, Wednesday and Thursday (Tuesday, Wednesday and Thursday will remain unchanged).

Participants in the call made suggestions to improve the methodology. ARB and district staffs thanked Leonard Seitz for his large contribution to and the ultimate success of this project.

Day-Specific Emissions

ARB modeling staff mentioned that the day-specific shipping factors for the BAAQMD are being incorporated into the modeling inventories under development.

4. Modeling Files and Reports

ARB modeling staff plan to have model-ready files available soon. ARB will notify the SIP GICG members when the files are ready. Modeling staff also described three summary reports that will be used to display the emission data.

- One report shows the original emission data as it comes in from CEFS. It then shows what emissions are deleted and replaced with day-specific data and the final emissions that continue on for processing into model-ready files. This report is sorted by air basin, pollutant, county and EIC3. EIC3 refers to the first three digits of the EIC code and is often referred to as the summary category. For example, under the major heading of Fuel Combustion, summary categories include Electric Utilities, Cogeneration and Petroleum Refining (Combustion).
- A second report shows the emission data after it has been processed by EMS-95. At this point in processing, emissions have been assigned to a grid cell and distributed to hourly emissions from the daily amounts, but before being speciated. This report is sorted by pollutant, EIC1 and county. Like the EIC3, the EIC1 refers to the first digit of the EIC code and is often referred to as the major heading. For example, under Stationary Sources, the EIC1 includes Fuel Combustion, Waste Disposal, Cleaning and Surface Coatings, Petroleum Production and Marketing, and Industrial Processes.

- A third report provides domain totals by pollutant before speciation is applied followed by emission totals by speciated compound after speciation is applied in EMS-95.

Once these reports are available for review, ARB modeling staffs encouraged districts staff and others to review the data as well as make suggestions on ways to improve the reports or other reports that would be useful in reviewing the modeling inventories.

5. Other Issues

District staff asked about emissions for the state of Nevada. ARB has received the model-ready files from Gail Tonnesen (UC Riverside, CE-CERT) developed for the WRAP covering the State of Nevada. ARB staffs are not sure of exactly what sources are in the inventory (e.g. point, area, biogenics, motor vehicles?). ARB staff will investigate the question.

6. Plans for Next Meeting

The next meeting is scheduled for April 27 at 10:00 am.

May 9, 2006

Attendees	Affiliation
Phil Martien	Bay Area AQMD
Bruce Katayama, Hao Quinn	Sacramento Metro AQMD
Gary Arcemont, David Nunes	San Joaquin Valley Unified APCD
Genie McGaugh	Ventura County APCD
Susan McLaughlin	Yolo-Solano AQMD
Harold Brazil	MTC
Chris Emery	Environ
Vernon Hughes, Martin Johnson, Cheryl Taylor, Webster Tasat	ARB

1. Welcome and Introductions

Cheryl welcomed everyone to the call. Introductions were made. Introductions were made. ARB apologized for the confusion about the meeting. Just before the meeting was scheduled to start, a fire alarm occurred at the CalEPA headquarters meeting for an unannounced building evacuation drill. ARB staff left a voice mail message for one of the participants, who later heard the email, but not before several participants had dropped off the call. The meeting began at 10:45. Since there was a representative from each district who normally participates, the meeting was held.

2. Approval of April 6 Meeting Highlights

Due to a short turn-around time and confusion about the meeting, ARB staff asked participants to provide comments to ARB. If no comments are received by the next meeting, the meeting highlights from April 6 will be considered approved as written.

3. Status of Gridded Inventories

July/August 2000 Episode

ARB inventory staffs are expecting to produce a new set of gridded CEFS outputs to provide to ARB modeling staffs by May 23. This new version will replace the current version originally provided at the end of December 2005. Some updates to the inventory have occurred since December. Changes to point sources have mainly come from the South Coast AQMD. Some changes to area sources have been made, including an update to auto refinishing and a change to consumer products to correct an overestimation of hair spray emissions. For off-road mobile

sources, changes have been made to emissions from cargo handling equipment and locomotives. A major change to the categorization of emissions within CEIDARS from the OFFROAD model is occurring. Previously, data from the OFFROAD model were summed and reported to CEIDARS in 80 emissions categories. Beginning with this next version, the emissions will be reported in 1,800 categories, reflecting the level of detail that is carried in the OFFROAD model. This change will allow for more precise handling of the impacts of control measures in the inventory as well as more precise assignments of organic and PM speciation profiles. Changes are also expected in the emissions from on-road mobile sources. One change will be the handling of pending registrations in the calculation of vehicle population. Pending registrations are included in the registration data from DMV and involve those vehicles that are in the process of being registered but for a variety of reasons cannot be registered (e.g. no smog certificate, fee not enclosed). In earlier versions of EMFAC, all of the pending registrations were included in the vehicle population. The assumption of including all pending registrations in the vehicle population has now been rethought. Factors have been calculated to reduce the vehicle population due to pending registrations. Once all of the inventory revisions have been received by ARB modeling staff for the May 23 submittal, any changes to the modeling inventories after that date will be handled as external adjustments. The model-ready files and reports mentioned below reflect CEFS rf# 954. The new inventory provided May 23 would have a new reference number.

ARB inventory staffs are preparing an "8-Hour Ozone SIP" web site to allow viewing of the gridded inventories generated by CEFS. This web site will also include report generators for the latest planning inventories. For on-road mobile sources, the planning inventories will display data from EMFAC2002 rather than the new version of EMFAC still in production. The web site will mention that correction factors will be available to district staffs to be applied to EMFAC2002 that can be used to approximate the new EMFAC. The web site will provide the phone number of ARB's contact. At this point in time, the web site will only be available to district staffs. ARB inventory staffs will notify districts through the EITAC list serve when the web site is ready. Several district staffs asked if they could receive information on the web site since they aren't on the EITAC list. Names of interested SIP GICG members will be given to ARB inventory staff for inclusion on the announcement.

ARB modeling staff said that model-ready files and summary reports were posted to ARB's Orthus ftp site on Monday, May 8. Contact Cheryl Taylor for more information on accessing the Orthus ftp site. Model-ready files were posted for point, area and mobile sources for July 27 through August 2, 2000. Biogenic files for July 29 through August 2, 2000 were also posted. July 27 and 28 are being developed for biogenics and will be posted when available. The number of days for modeling this episode was increased to meet EPA's requirement for RRF calculations (July 27 and 28 are being added.)

ARB modeling staff described the three types of reports that were posted:

- **CEFS_RawData_Reports:** This report shows the original emission data as it comes in from CEFS. It then shows what emissions are deleted and replaced with day-specific data and the final emissions that continue on for processing into model-ready files. This report contains emissions that are sorted by air basin, pollutant, county and EIC3. EIC3 refers to the first three digits of the EIC code and is often referred to as the summary category. For example, under the major heading of Fuel Combustion, summary categories include Electric Utilities, Cogeneration and Petroleum Refining (Combustion).

- Speciation_Reports: The report provides domain totals by pollutant before speciation is applied followed by emission totals by speciated compound after speciation is applied in EMS-95.
- County_Total_Reports: This reports provides emissions (in kg/day) by county and pollutant. There are two identical columns of emissions; one may be ignored.
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District staffs were asked for suggested changes or improvements to these reports along with ideas for additional reports. Staffs on the call suggested that reports with more detail, such as emissions sorted by EIC1 or EIC3, would be helpful. Also, reporting of ROG emissions as well as TOG would be helpful. District staff suggested a report that shows emissions for each facility by EIC3 would be useful. Clearer labeling of titles would also be helpful.

District staff reminded ARB that we had agreed to provide model-ready files and reports separately for light-duty and heavy-duty vehicles. In other words, the on-road mobile files and reports should be divided into two parts.

ARB staffs asked district staffs to review the reports and provide comments to ARB on Friday, May 19. ARB staffs will provide a summary of their observations by this Friday. District staff suggested that ARB staff write up these minutes in a timely manner since there was confusion about the time and occurrence of the meeting.

July 1999 Episode

ARB staffs plan to have model-ready files and reports available for the July 1999 episode by next week. A notification will be sent out when those files are available. The model-ready files and reports for the July 1999 episode will be recreated with the next version of the inventory (expected May 23) as well as the July/August 2000 episode.

Future Years?

District staffs were asked to contact their planning liaisons to let them know which future years would be of highest priority for modeling. Time and resources are tight, so please discuss this issue with them soon.

4. Other Issues

No other issues were discussed.

5. Plans for Next Meeting

The next meeting is tentatively scheduled for either May 30 or June 6 at 10:00 am. Which date is chosen will depend on comments received by the districts and the status of inventory preparation.